THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—46TH YEAR SYDNEY, SATURDAY, JUNE 6, 1959 No. 23

Table of Contents

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES— Page

An Address: An Enchanted Place, by Munro S. Alexander .. 753
Some Observations on Inguinal Hernia in the Adult, by Thomas F. Rose .. 756
Evaluation of the Finger Imprint Method for Sweat Electrolyte Estimation in Fibrocystic Disease of the Pancreas, by Charlotte M. Anderson and Mavis Freeman .. 760
Dealing with Relatives of Mentally Ill Patients, by Ian Simpson .. 761

REPORTS OF CASES—

Ascending Paralysis Following Malathion Intoxication: A Case Report, by J. K. Healy .. 765

REVIEWS—

The Incurable Wound .. 767
New Biology .. 767
Prescription Proprietaries Guide .. 767

BOOKS RECEIVED .. 768

LEADING ARTICLES—

Medicine and Civil Defence .. 769

CURRENT COMMENT—

Subacute Combined Degeneration of the Spinal Cord .. 770
Glasgow's X-Ray Campaign Against Tuberculosis 771

ABSTRACTS FROM MEDICAL LITERATURE—

Surgery .. 772

BRITISH MEDICAL ASSOCIATION—

New South Wales Branch: Annual Meeting .. 774

CORRESPONDENCE—

Chlorpromazine and Phenobarbital in Disturbed Behaviour .. 781
Third World Congress of Cardiology .. 781

CORRESPONDENCE—Continued. Page

Alcohol as a Factor in Medico-Legal Sudden Deaths .. 782
Long-Acting Progesterone Preparations and Orally Administered "Primolut N" in the Treatment of Habitual Abortion .. 782

ROYAL AUSTRALASIAN COLLEGE OF SURGEONS—

Final Fellowship Examination .. 782
Faculty of Anæsthetists: Final Fellowship Examination .. 782

POST-GRADUATE WORK—

Royal Prince Alfred Hospital: Ear, Nose and Throat Department .. 783

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA .. 783

NOTES AND NEWS .. 783

CONGRESSES—

International Congress of Phlebology .. 783

UNIVERSITY INTELLIGENCE—

The University of Sydney .. 784
The University of Adelaide .. 784

NOTICE—

Missing Girl .. 784

NOMINATIONS AND ELECTIONS .. 784

DEATHS .. 784

DIARY FOR THE MONTH .. 784

MEDICAL APPOINTMENTS: IMPORTANT NOTICE .. 784

EDITORIAL NOTICES .. 784

An Address.[1]

AN ENCHANTED PLACE.

By MUNRO S. ALEXANDER,
President, New South Wales Branch of the British Medical Association.

And Pooh thought how wonderful it would be to have a real brain which could tell you things.

—A. A. MILNE, "The House at Pooh Corner".

WHEN I look back at the long list of my predecessors, many of whom were distinguished men, I remind myself that this office is not a merit award, although from my observations over the last nine years as a member of Council, it is rarely a sinecure. I am deeply conscious of the honour which has been accorded to me.

I am no Laertes, but am grateful that I have many a Polonius at hand to guide me. Tonight the Council has had the pleasure of the company of many of this year's new graduates at dinner prior to this meeting—an innovation well in keeping with the youthfulness of its President-Elect. I am not unmindful of one part of Polonius' advice:

. . . do not dull thy palm with entertainment
Of each new-hatched, unfledged comrade.

However, I am glad that that piece of advice has not been taken seriously. Equally, Polonius said: "Give thy thoughts no tongue." I regret, but I do hope that you will not, that precedent has decreed otherwise.

Whilst I was preparing for this fateful day, when for your misfortune an amateur would take over the reins of office from its experienced and laurelled predecessor, I thought over the things which I had read which might possibly provide me with a source of inspiration for something that I might say. I narrowed my choice to two books: one, Nino Culotta's "They're a Weird Mob"; and, two, A. A. Milne's "The House at Pooh Corner". I hope that my audience will feel duly flattered that I have finally decided to discard the former in favour of the latter. And from the latter I have selected "An Enchanted Place" as a suitable title, if I must have one, for my address.

For the purposes of my subject, this is a place where there is a complete freedom for the practice of medicine. That it will probably ever be only a fairy-tale place will doubtless become apparent as my observations take form. I have chosen this particular subject for a special reason. This month we are to be honoured by the World Medical Association, who are holding a council session, the 35th, the first of its kind in this country, and chaired for the first time since its inception by an Australian, Dr. L.

[1] Read at the annual meeting of the New South Wales Branch of the British Medical Association on March 19, 1959.

Mallen of South Australia, who is our Federal Council's representative on the World Medical Association. This signal honour by an organization specifically formed to preserve the freedom of medical practice highlights to me the importance of a brief reassessment of the position in which we find ourselves today in this State.

What do we mean by freedom in medicine? It is patent that this is not a new subject, for freedom in their work has obsessed the minds of men throughout "the age in which we are living", described by Toynbee (1948) as "at least the last 5-6000 years within which mankind, after having been human for at least 600,000 years before that, attained the modest level of social and moral achievement that we call 'civilization'".

The late Mervyn Archdall in 1951 suggested that most medical practitioners, if asked what they meant by freedom in medicine, would say that "they wished to be able to treat their patients to the best of their ability in accordance with their knowledge of the science and art of medicine and in conformity with their insight into the patient's mentality and general conditions of life", and no doubt others could elaborate this conception. It is not an easy thing to define, and the more one delves into it, the more complex the subject becomes. You will, no doubt, be relieved to know that I do not intend to delve so deeply into its philosophy, as Professor McMurray has done in his book "The Conditions of Freedom". But let me briefly state two of the paradoxes implicit in the concept.

The first is clearly described by T. F. Fox (1951) in his Croonian Lectures. It is this: everyone who has acquired a special technique, be he physiotherapist, or nurse, or optometrist—to limit oneself to a portion of what Fox prefers to call "the greater medical profession"—feels that the community should recognize his accomplishments and protect the public against unqualified imitators, in return for which recognition he will gladly obey professional rules of his own or the State's making and maintain or raise professional standards. Sooner or later he aspires to an official hallmark giving the members an official advantage over unrecognized persons. Firstly, his own organization lays down rules of conduct to limit his activities, and finally the State determines the conditions under which a name is put on—and off—the official register. This *quid pro quo*, over which he has little or no control, could alter his standards grievously, could result in overcrowding and could seriously limit the freedom of his professional group. In other words, increasing professionalism automatically tends to limit freedom.

The second paradox relates to the fact that there are few things which men and women in general fear so much as freedom, for freedom involves taking decisions and accepting the consequences.

In this connexion I like to recall the story of four privates in a field ambulance early in the last war. After some months in camp with his non-commissioned officer list incomplete, the commanding officer paraded four suitable characters and offered them one stripe—promotion to the rank of lance corporal. This they declined, as they felt the responsibility would be too great and their liberty would be likely to be curtailed.

"Liberty", said Bernard Shaw, "incurs responsibility. That is why most men dread it." It is because liberty alone permits responsibility that our profession must retain it. I feel it would be inappropriate to dilate on the theoretical aspect of the matter further, and I now wish to turn briefly to two more practical aspects of this subject which seem to me important and relevant. They are control through the administration, and through the public. I use the word administration in a broad sense. The administration appears before us in very many different guises.

First, the Commonwealth Government: this appears principally as the Minister of Health and his department, with its departmental officers, with the Pensioner Medical Service, pharmaceutical benefits, and repatriation and hospital benefits. Whereas it is often easy for us to agree with a Minister of Health on a general principle, we must always bear in mind the control exercised by his administrative officers in the civil service over details which may ultimately promote control never previously contemplated over the hospital and medical benefits funds and even over individual physicians and patients. The recent legislation dealing with patients over the age of 65 years or with chronic diseases may well be an example of this. Professor F. A. Bland has recently seen fit to comment on the tendency for government officials to arrogate the powers of ministers and parliaments unto themselves.

The two other Commonwealth matters to which I wish to refer are the controls relating to pharmaceutical benefits and the Pensioner Medical Service.

Under the *National Health Act* of 1953-1957, there is established in each State a Medical Services Committee of Inquiry composed of the State Director and four medical practitioners, appointed by the Minister from among medical practitioners nominated by the Council of the State Branch of the British Medical Association. In this State, under the chairmanship of Dr. A. C. Thomas, Sir William Morrow, Dr. B. A. Cook, the State Director and I have comprised this Committee since its inception in 1953. Its function is to inquire into and report to the Minister for Health or Director-General of Health on any matter referred to the Committee by them in respect of or arising out of services or conduct of medical practitioners in connexion with the supply of pharmaceutical benefits and the Pensioner Medical Service. From this it is clear that the Committee only reports to the Minister and makes a recommendation. The final decision is made by the Minister. A wise provision in the Act provides that the Committee must give the doctor concerned the opportunity of appearing before it in person before making any report or recommendation to the Minister which would be to the doctor's disadvantage. I believe this provision could well be copied by our own and the Medical Benefits Fund arbitration sub-committees. In the Pensioner Medical Service the Minister, after investigation and report by the appropriate committee of inquiry, and only after such inquiry:

> (a) may reprimand the medical practitioner; (b) may terminate the agreement with the medical practitioner for a period not exceeding 12 months if the evidence before him indicates that the medical practitioner in relation to his provision of medical services has been guilty of failure to discharge conscientiously his obligations under the agreement or of conduct which is an abuse or contravention of this act. Termination of the agreement provides the medical practitioner his only opportunity of appeal to the Supreme Court; (c) may disallow in whole or in part a claim for fees by a medical practitioner.

With regard to pharmaceutical benefits similar provisions exist, and the Minister may (*a*) reprimand the medical practitioner, (*b*) revoke the authority to prescribe pharmaceutical benefits, (*c*) require repayment for drugs not prescribed in accordance with the regulations.

I think it is fair to say that the members of the N.S.W. Committee are not entirely happy with the powers as above described; as one of its members recently observed, they involve either complete exoneration or hitting the offender on the head with an axe. We believe in, and are at present investigating a possible way of, giving "fatherly advice" to erring practitioners which would steer a middle course between these two alternatives.

Now that the Repatriation Department benefits, not only to ex-service men and women, but also to widows and their dependants, are on a fee-for-service basis, it is a matter of conjecture whether or not these too will have to come under the control of some committee such as the present committees of inquiry. It may be that their troubles are just beginning.

As at February 1, 1959, in New South Wales, 260 cases have been considered by the Committee of Inquiry which meets monthly, and which this month held its 59th meeting; 179 of these 260 doctors have had their explanations accepted, and 113 have actually appeared before the committee. In the Pensioner Medical Service the most

common type of case dealt with is suspected over-visiting. With few exceptions, after recovery action has been recommended by the Committee, the monthly claims have decreased.

Ten doctors have requested and been granted legal representation, but there appear to be few advantages and many disadvantages in taking this course of action.

In the pharmaceutical field the departmental officers have had some enlightening experiences. In one instance there were repeated prescriptions for dimethyl phthalate. On inquiry it was ascertained that: "The patient lives in a hut adjacent to a pig sty and when it rains the lice leave the pigs and come into the hut." The dimethyl phthalate was applied to the walls.

However, the greatest problem lies in the use of antibiotics and the second schedule drugs, which are for specified diseases or purposes. Quite apart from the well known scientific disadvantages, overuse of antibiotics wastes money. With regard to the second schedule of drugs, which may be altered only on the advice of the Pharmaceutical Benefits Advisory Committee established under the *National Health Act*, there is a fairly clear-cut list of indications for which the Commonwealth is prepared to supply them free to the patient. If a doctor prescribes vitamin B_{12} for patients who do not have established megalocytic anæmia, he is liable to pay back to the Commonwealth the cost of these drugs. If he prescribes "Testoviron" to stimulate ageing business executives, he may do so at their expense, but not at the Commonwealth's. We have agreed to restrict our "free prescribing" in a certain way; all that remains is to adhere to the rules and play the game. A few have regretted that they have not.

It is well that it be known that all Pensioner Medical Service vouchers, all Pensioner Medical Service and general pharmaceutical benefits prescriptions, are filed by the Commonwealth for at least six years, so that the pensioner visiting or the prescribing habits of any medical practitioner in Australia can be studied at will. Supervision of the Pensioner Medical Service and the pharmaceutical benefits must remain. Supervision by our profession must remain. I am sure few would relish this masochistic task; but the fact is that the present Committee in this State has six years of accumulated experience behind it, and I believe acts in a manner which is in the best interests of every practitioner in this State.

Surely every practitioner must realize that any action on his part which is worthy of censure by the Commonwealth Minister for Health is likely to lower the prestige of his whole profession.

Sir William Slim (1957), in his book "Courage", has pointed out that "it is as well sometimes to remind ourselves of the direct relation between liberty and discipline", and that "in an Army—as in a great many organizations—good doctors are helpless without good discipline". However, I am a believer in team work, and I believe that whether one be a Minister for Health, a chairman of a hospitals commission, a chairman or member of a hospital board, a full-time employee of a hospital or an honorary medical officer, a general practitioner or a specialist, a member or official of a Royal College, all our efforts should be directed as a team to providing a better medical service to the community as a whole, and if we stick to the rules and have goodwill on all sides I am sure that this can be done. In other words, as Sir William Slim pointed out in his Australia Day broadcast this year, we must never forget our unity and mutual interdependence. In both Commonwealth and State spheres of activity, as Platt (1950) expressed it:

> It must be remembered that once launched on its course the Welfare State acquires a natural impetus from within; it becomes the pride of its administrators and it illustrates what Bertrand Russell (1949) has called "the Administrative fallacy" in which the tidiness of a planned organism is regarded as a model of order—an end in itself.

We in Australia cannot be lulled by a recent turn in the political wheel of fortune, since that wheel usually continues to turn, and when we hear of policies involving abolition of the means test and free medical treatment for all returned ex-service men and women, I believe we must keep our minds alert to the possibility that there are people in the world who do not like us as a body and are adept at giving away things which they do not own. Many politicians the world over love to give free medical service to their voters under the guise of improving social security, and in so doing inevitably place the private practitioner's desired way of life in jeopardy. If you study the twelve principles of the medical aspects of social security, as laid down by the World Medical Association (1952), you will read in the second: "No intervention of 3rd party between physician and patient." In the comment on these principles, this statement is qualified to the following effect:

> When medical care is provided as part of social security, the State or the local authority or the insurance company enters into relationship with patient and doctor. Such relationship must not involve interference with essential freedoms of either, and no method of payment of doctor or conditions of service should be introduced without prior consultation with and the consent of the medical profession.

That is, in certain limited areas of activity under certain conditions, we have agreed to limit our freedom. Most of us will have no hesitation in agreeing that where we have most of our problems is where a third party intervenes between us and our patients, and we have constantly been at pains to limit this sphere of activity. Toynbee (1948) has a relevant observation on this point:

> What the world needs above all now is to get the spirit of free enterprise versus socialism off its ideological pedestal and to treat it, not as a matter of semi-religious faith and fanaticism, but as a commonsense practical question of trial and error, of more or less, circumstance and adaptation.

Our present system, I believe, is a suitable compromise between our theoretical beliefs and the practical situation of social security as visualized by Governments here in Australia.

In the State sphere, the next aspect of administrative control which warrants close scrutiny is that residing in the hands of chief executive officers and secretaries of hospitals. We have only ourselves to blame if we are content to leave the detailed administration and control of hospitals in the hands of laymen. A greater number of medical practitioners must be encouraged to take administrative courses and fill administrative positions, and this I believe is something we must look at more closely in the coming year.

Turning now to control by the public, I am aware that many aspects of this are self-evident. I am aware also that here is material for a separate address on its own. Suffice it to say that it is my belief that "the very foundation of good public relations depends upon the way each individual physician deals with his patient". (Shepard, 1955), rather than on the spending of large sums of money in employing public relations consultants.

The traditional attitude of medicine has been almost oracular—letting the public seek us out, issuing instructions by fiat and letting the patient "take it or leave it". This may be one of the reasons for curtailed freedom in other countries. In these modern democratic days of universal education, can it be that oracles are going out of fashion? It is a strange paradox that just at a time when we can do more for our patients than ever before, there undoubtedly exists a simmering undercurrent of criticism at the high cost of medical and hospital services, at undue delay in waiting rooms and short abrupt interviews with the doctor, at being pushed from one specialist to another or from one member of a group of general practitioners to another, at the lack of the tender, loving care of the old family doctor.

With an ever-growing body of medical knowledge and the development of more difficult techniques, there is an

inevitable trend toward specialization. But, with Shepard (1955), I believe "that if we must have specialization (with limited objectives) we must also have specialists in synthesis, among them the general practitioner and the public health physician whose professional status must be preserved". I believe the College of General Practitioners to be playing a valuable part in maintaining the general practitioners' status. However, I am afraid that, as the years go by and more people appear who have higher degrees, the general practitioner without such higher degrees is gradually being pushed out of the public hospitals. It will be a bad day for Australian medicine should that happen, and I believe that we as a body and the Council in particular must continue to press for the general practitioner's continued inclusion on the staffs of public hospitals. In certain quarters it has been suggested that there be undertaken an objective investigation of "consumer reaction", or a public opinion poll. So far we have resisted such a suggestion, largely on the grounds of cost, but I believe also on the grounds of possible loss of dignity. One day, however, such an investigation may be necessary. While high quality medical service at a price the patient can afford remains the password, the key to the gateway of good public relations is still in the hands of the good general practitioner.

So finally we turn to look at ourselves. Steering our way through the Scylla of politics and the Charybdis of commercialism, are we to continue living permanently in our present state of felicity, "that comfortable uneventful life which many of our younger generation have come to take for granted, as though it were their birthright"? (Toynbee, 1948.) If our profession fails to meet the social and scientific challenge of the modern age, "the fault, dear Brutus" will lie "not in our stars, but in ourselves". One way in which many do fail us is by rarely or never attending their local association meetings or the Branch meetings, and some specialists misguidedly do not even belong to their local association. Their opinions are earnestly desired, and there has never been any bar to a specialist's belonging to a local association. In the same category of failure lies the general practitioner who has not the wisdom to call in a consultant when matters medical lie outside the scope of his capabilities.

All the foregoing riddles may be hard to read, but they do tell us plainly what we most need to know. We are not just at the mercy of an inexorable fate.

If, during the course of this address, in which so many problems have been touched on, I have made any observations with which my listeners do not agree, I must of necessity fall back on the apologia of Dr. Samuel Johnson, who, after the publication of his "Dictionary", was asked by a lady why he defined a certain item in a palpably faulty way, and replied: "Ignorance, dear Madam, sheer ignorance."

"The Enchanted Place" of freedom in medicine which we desire is closer to attainment if we are continually guided by the highest standards of morality in service to our patients and not by mere commercialism, if we are forever united and vigilant, and if we yield not to political expediency. Then, and only then, shall we be worthy of the first precept of our Association—that we have maintained not only the interests of our profession, but its honour. My *credo* is that the strongest unifying influence in our continuing fight for professional freedom is the organization which we know today as the British Medical Association, an organization which in the foreseeable future may become in this country the Australian Medical Association.

References.

FOX, T. F. (1951), "Professional Freedom", from the Croonian Lectures, *Lancet*, 2: 115, 171.

PLATT, H. (1950), "Medicine in the Modern State", *Brit. med. J.*, 1: 503.

RUSSELL, B. (1948), "Authority and The Individual", The Reith Lectures for 1948-1949, London.

SHEPARD, W. P. (1955), "An Increase in the Price of Medical Freedom", *J. med. Educ.*, 30: 440.

SLIM, W. (1957), "Courage and Other Broadcasts", Cassell, London.

TOYNBEE, A. J. (1948), "Civilisation on Trial", Oxford University Press, London.

WORLD MEDICAL ASSOCIATION (1952), *Brit. med. J.*, 2: 371.

SOME OBSERVATIONS ON INGUINAL HERNIA IN THE ADULT.[1]

By THOMAS F. ROSE,

Surgeon, The Royal North Shore Hospital of Sydney.

THE subject of inguinal hernia, many aspects of which are as yet unsolved, is most important, especially in the industrial field, where the occurrence of a hernia causes much loss of employment, payment of compensation, litigation and work for the surgeon. Although the condition is commoner in the adult male, nevertheless more and more women are suffering from inguinal hernias, especially those engaged in occupations involving work more strenuous than housekeeping. Indeed, it would be interesting to know the comparative figures for the occurrence of inguinal hernia in males and in females in those countries where women apparently do manual work as heavy as the men.

Ætiology.

One often hears the question asked, especially in matters of litigation, whether a certain hernia is congenital or acquired.

In order to discuss this problem intelligently, differentiation must be made between the actual hernial sac itself and the hernia, which, of course, is the sac *plus* its contents of abdominal viscera. It is obvious that a person can have a congenital sac which may never become filled throughout the whole of his life, and therefore the patient never suffers an actual hernia. On the other hand, a sudden rise of intraabdominal pressure, due perhaps to heavy lifting at work, or to coughing from pneumonia, bronchitis or smoking in adulthood or even old age, can force the hitherto closed sac open so that it becomes filled with abdominal contents. Thus the filled hernial sac or hernia reveals itself for the first time to the patient and examiner. Consequently the "incident" of lifting or coughing may be said to have materially aggravated a preexisting condition.

When the inguinal hernial sacs are divided into their two main anatomical groups, the direct and the indirect, the former are obviously mainly acquired, especially bilateral sacs in the elderly due to repeated increases in intraabdominal pressure caused by continuous heavy work, chronic cough, constipation or urinary obstruction. Through Hesselbach's triangle, they are due to weakness with splitting or bulging of the transversalis fascia. One type is the direct hernia that may occur after Lotheissen's operation for femoral hernia, which involves splitting the fascia transversalis.

However, though it is extremely rare, a direct hernia can occur in infancy, or not so rarely, it may appear for no apparent reason at all in strong young men accustomed only to a sedentary occupation, so that it is certain that such sacs must be congenital in origin.

As far as the adult indirect inguinal hernial sac is concerned, there is no doubt whatever about the congenital origin of the sac when, after some rise of intraabdominal pressure, a complete hernia suddenly appears for the first time going immediately into the scrotum. At operation, the sac is found to be continuous with the tunica vaginalis of the testis, and is obviously the still present congenital processus vaginalis.

It is the small adult incomplete, indirect, hernial sac about which it is less easy to be dogmatic, especially

[1] The substance of a lecture delivered during the 1958 general revision course of the Post-Graduate Committee in Medicine in the University of Sydney.

the one that first appears after a sudden rise in intra-abdominal pressure due to one effort such as a slip when carrying a weight. After such an effort, a sudden painful swelling appears in the groin. Has this rise of pressure forced the abdominal contents into the inguinal canal, pushing loose, redundant peritoneum ahead of it down the canal? Or was the small sac already there, but unfilled, with an unopened neck? From operations on the inguinal canal for indications other than hernia, it is well known that these small, hitherto unsuspected sacs are commonly present. The sudden filling of these sacs can cause pain severe enough to be accompanied by shock.

Consequently, as Hamilton Russell said many years ago, it may not be too much to say that all original indirect inguinal hernial sacs are of congenital origin, even if their filling is aquired and hence a material aggravation.

Records.

Carefully written notes for permanent record are most important in hernia cases, especially if there is any industrial relationship present which may lead to possible later litigation. The records must include in detail the history, physical examination and operative findings if operation is performed. In the last-mentioned, the description of the sac is paramount — whether it is direct or indirect, its size, the thickness of its walls, its contents, the presence or absence of adhesions and whether they are inside or outside the sac. The technique of repair should be described, and notes should be made of the suture material or any prosthesis used.

The date and time of the first onset of any symptoms referable to the groin, the type and duration of pain and especially its relationship to any incident such as work effort or a bout of coughing must be detailed. The severity of any pain, its type and duration must be described, and note must be made of whether it was succeeded by an ache. Its accompaniment by shock, vomiting or nausea or an "off colour" feeling is noted, and whether it made the patient cease work and for how long, or whether it made him change his work for a lighter job.

The time of first noticing a swelling, if any, either by the patient or by the examiner and its relationship to the onset of any pain are noted. Whether or not the swelling was painful or tender on its first appearance must be recorded.

History.

There is no such thing as a "typical history" attending the onset of an inguinal hernia. In fact, the history may vary from the appearance to the patient of a painless, non-tender swelling as his first realization that he has a hernia, to that of pain of varying magnitude due to an "incident" at work, a severe cough, a bout of constipation or urinary obstruction. This pain may be present initially all over the whole of the abdomen, or the lower part of the abdomen only, or in the appropriate lower quadrant. It then radiates to the affected groin after a varying interval of time, though this is usually reasonably short. On the other hand, the pain may commence in the relevant groin and radiate up to the loin or down to the testicle or vulva as the case may be. Such a pain may or may not be associated with nausea or vomiting or shock of varying intensity, from an "off colour" feeling to an actual collapse. It may or may not cause cessation of work, or it may make the patient do lighter work.

The pain may be followed quickly, immediately or within a few minutes by the appearance of a groin swelling, which is usually tender. On the other hand, the swelling may appear more slowly after an interval of time varying from days even to months. During such an interval there are recurrent episodes of groin pain, often an aching pain, usually worse on effort, coughing or straining, but not so severe as the original attack. Sometimes the swelling may not become apparent to the patient, especially if he is a male patient with much deposit of fat round the pubic regions; but the examiner is able to find it. However, once it does appear the diagnosis of a hernia is confirmed.

The difficult cases are those in which no swelling is apparent to the examiner at the time of his initial examination.

In some cases, the hernial swelling may be apparent only at some times and not at others. This may be embarrassing to the examiner if he does not heed the patient or a colleague who has found the swelling previously. Such patients must be reexamined after exercise to fill the hernial sac.

Even more difficult are those cases of sudden or even less sudden onset characterized by groin pain following some "incident" such as an unusual effort. Pain and tenderness only may be present, with no swelling. The condition is often diagnosed as a "strain" of the muscles, whereas actually it is a small hernia just through its internal ring and quite impalpable. It is almost an interstitial or interparietal type of hernia at the time. On follow-up examination, these patients sooner or later develop a palpable hernia, days, weeks or even months later. When it does appear and operation is performed, the disappearance of the groin pain confirms one's original opinion that the "strain" was actually an early hernia. I have several times operated in such early cases because of the presence of pain, before clinical evidence of hernia was present, and have found a small, indirect, usually empty sac, removal of which cured the pain and so established the relationship between the two.

This painful groin, too, can occur early after a hernia operation and presages a recurrence. It is not due to ilio-inguinal nerve involvement, because once the recurrent hernia is removed the pain ceases.

Examination.

The groins must be examined with the patient standing and lying, the former to make the hernia more prominent, the latter to help to reduce it. One cannot overestimate the importance of examining both groins, not only to compare the affected with the apparently normal groin, but to make sure that there is not an unsuspected hernia present in the latter. This is a very common finding, especially after bilateral inguinal hernia operations. The patient complains of a recurrent swelling in one groin without the slightest realization that he also has quite a large swelling in the other groin too. This naturally raises doubts in the mind of the examiner as to when each hernia actually appeared, especially in those cases involving litigation in which the relationship of the appearance of the hernia to the incident allegedly causing it is involved.

In many instances one can diagnose the direct from the indirect hernia by clinical examination; but it may be almost impossible to tell prior to operation. Contrary to popular opinion, the direct hernia can become complete, and it can become strangulated too.

Complications.

Irreducibility, may be due to adhesions between bowel or omentum. Such adhesions need not be old, as we know adhesions can form in a few days.

Hernial incarceration occurs when a loop of bowel cannot be reduced but its blood supply is unimpaired. However, it is a very dangerous diagnosis, as the condition may well be a strangulation; this, of course, demands early operation. In early cases — and I stress early — if for some reason operation cannot be performed, then it is better to perform reduction under general anæsthesia. "Pentothal" and muscular relaxants are excellent for this purpose. This is safer than taxis.

If at operation, resection of bowel is necessitated, it can be done with the subsequent anastomosis in the hernial site, and does not require a separate abdominal incision.

Operation.

Contraindications.

There are few permanent contraindications to operation, apart from those of debility or general illness.

However, one must be very wary of bilateral direct hernias in the elderly and obese, which can often be better controlled by truss, as they can reappear very quickly after operation for no apparent reason at all.

Temporary contraindications of urinary obstruction, bronchitis and constipation should be treated appropriately before operation is contemplated for the uncomplicated hernia. Smoking should be stopped a month or more before operation. It is surprising how often chronic smokers without a cough before operation invariably get bronchitis with a cough after operation.

On no account should operation be performed in the presence of acute upper respiratory tract infection, as after it, even when only local anæsthesia is used, the infection is apt to spread into the lungs and cause coughing, the bane of the herniotomist.

Operations should never be performed in the presence of obvious localized infection, such as a small boil, even though well away from the field of operation, as it can cause post-operative wound infection via the blood-stream.

The Operation Itself.

Bilateral hernias can be repaired at the same operation, but it is unwise to do this in the elderly, as they often become remarkably "chesty" after operation—sufficiently so to cause recurrence.

Some surgeons have recently advocated bilateral operations, especially in children, even if only one side appears to be affected, pointing out that in children many hernial sacs are bilateral. I believe that this is wrong, since, whilst it is not rare for patients to present themselves with a hernia in the opposite groin many years after the first operation, it is certainly not common enough for bilateral operation to be advocated in all cases. Consequently, before operation in the theatre, the surgeon must again check personally with the patient the side of operation.

So much has been written recently about the anatomy and details of the operation that repetition would be presumptuous, but a few points certainly bear discussion.

Removal of the Sac.—When the field of operation is exposed, a double sac—the combined direct and indirect or pantaloon hernia—should be looked for, as it is far more common than is generally realized. When an obvious direct hernia is found first, it is especially important to explore the cord in the region of the internal ring, in case a small indirect sac is present. If it is missed, it will lead to the appearance of a later indirect hernia. Such a sac is an argument for the congenital causation of all indirect hernias. Similarly when an obvious indirect sac is found, exploration to see whether a direct sac is also present is essential. Once found, the sac of the hernia is examined to see if it is thick or thin walled, whether adhesions are present or not, and if so, whether they are inside or outside the sac. In most cases it is impossible to tell the exact age of the sac or even whether it is old or recent, especially if a truss has been worn, as this is known to cause a thickening of the wall or adhesions round it. Adhesions, even firm ones, may form very quickly, and they are thus very unreliable criteria for estimating the age of the sac. Care must be taken when the sac is surrounded by much fat, because such fat is often the extraperitoneal fat of a sliding hernia of colon or caecum or even appendix. A loop of large bowel can easily be opened carelessly in mistake for the sac. There is no doubt that the important part of the operation is removal of the sac and its ligation at the neck. This is easy to do in the indirect sac, but more difficult in the direct sac, because this usually has no discernible neck. As the direct sac is mobilized by the surgeon, it often enlarges to a tremendous extent as the surgeon unwittingly pulls up the loose peritoneum lining the anterior abdominal wall. Care must be taken here as the bladder is dragged in on its inner side. The direct hernial sac should always be removed unless it is merely a bulge. In the "pantaloon" hernia, the sac is turned into one by hooking the direct portion lateral to the inferior epigastric vessels, which rarely need to be divided.

The Repair.—Repair should always be performed in the adult, whether the hernia is indirect or direct. It is necessary, even if only to prevent a direct hernia from appearing after an indirect sac has been removed. As a preliminary, in some large hernias in elderly males, the cord, whose presence prevents proper repair, is removed with the testicle, provided permission has been previously granted. However, this manœuvre, though it enables a more thorough repair to be performed at the region of the internal ring, does not always prevent a new hernia from appearing. Even hernias in women recur, although the canal can always be obliterated with impunity after removal of the round ligament. Some surgeons have divided the cord, leaving the testicle in place to give a complete repair. This is not desirable, however, as it may lead to a very swollen, painful testicle from necrosis, followed by its later atrophy. In the repair the transversalis fascia, beloved of many writers, is really poor tissue on which to rely for strength. Whilst performing the repair, one must take care not to injure the femoral vessels, especially the femoral vein. Should this be punctured by a needle with suture, the needle and suture should just be withdrawn and pressure applied for five minutes. This will effectively cause the hæmorrhage to cease. On no account should the suture be tied, else a tear of the injured vessel will occur. So far no method of hernial repair has really been able to challenge the Bassini herniorrhaphy, and most other operations are but a modification of it. These modifications are performed to relax the tension of the conjoined tendon when it is sutured to the inguinal ligament. However, they may be followed by their own complications. Thus the Tanner slide operation may weaken the abdominal wall elsewhere and lead to a hernia through the weakened linea semilunaris, a type of Spigelian hernia. If the pubic periosteum or Cooper's ligament is used to hold the sutures (McVay's operation), osteitis pubis may occur, just as it may after retropubic prostatectomy. As far as suture material is concerned, in herniorrhaphy, in addition to absorbable chromicized catgut, non-absorbable sutures such as cotton, linen, silk, wire or nylon, monofilamentous or braided, are used in an effort to prevent recurrences, and all have their own loyal protagonists.

To repair repeated recurrences, or very large hernias, hernioplasties may be performed. These are of two types, those which are "darned" and those in which "implants" are used. The "darns" include Gallie's method of fascial repair, in which a strip of fascia lata is removed from the outer aspect of the thigh by a fasciotome. This operation has lost its original popularity, because there may occur a hernia of the quadriceps resulting in a very painful thigh. Also, hernias may occur through the large holes made in the conjoined tendon by Gallie's needle and the strip of fascia. The fascial strip may undergo necrosis, as it also may even if it is taken locally from the external oblique on a pedicle. The "darns" include also Maingot's method of using silk gloss and the nylon darns.

The "implants" are prostheses of nylon weave, tantalum gauze, polyvinyl sponge and even skin, all used in an attempt to prevent recurrences—which, for reasons to be discussed later, unfortunately still take place and present the next unlucky surgeon with the difficult task of trying to dissect in a fibrous, often cartilage-like mass of tissue.

Complications Peculiar to Non-Absorbable Sutures and Prosthetic Materials.—An implant is especially liable to be followed by continuous pain, tenderness and thickening in the inguinal canal, which may be so severe and persistent as to give the patient a permanent limp, until the implant is removed; this can be a very difficult and time-consuming operation. The implant may break or bend, and a direct hernia can occur round its edges. Skin implants may cause dermoid cysts. Whilst the implants, and also the non-absorbable sutures and darns, may be followed by thick fibrous tissues, which is what is desired, some may be followed by excessive hypertrophic fibrous tissue. This condition may be complicated by recurrent attacks of pain, tenderness, redness

and swelling in the groin, which may mimic acute inflammatory attacks as if an abscess was about to occur. Whilst these attacks may occur spontaneously, often they follow a "strain of the groin", such as may occur after a slip when lifting something heavy, or a bout of coughing. Operation reveals an acute, non-suppurative area of inflammation round the more chronic fibrous-tissue reaction immediately round the sutures, darn or implant. Sometimes, of course, a true suppurative, though non-infective, inflammation does occur, leading to chronic abscess and sinus formation. These conditions always require removal of the offending sutures or prosthesis, which can be a very difficult operation, especially in the latter case, in which its removal may lead to a new direct hernia. It is difficult to know why non-absorbable sutures cause trouble in some cases and not in others. The more superficial the suture, of course, the more liable it is to cause trouble. This especially applies to wire sutures, which can cause much pain, and also their ends can penetrate the surgeon's exploring finger pulps. Naturally, any suture may be followed by wound bacterial infection. This is often worse if non-absorbable material is used.

Results of Operation.

All these different methods reveal that the object of operation on a hernia — namely, to prevent its reappearance — is as yet far from fulfilled. Recurrences are far too common after any method of repair, and Doran (1958) has shown that the Bassini method appears to be as good as any, and that different suture methods yield equal results.

As far back as 1907, Bull and Coley reported a recurrence rate of only 0·5% in 1185 cases using the Bassini method, and in 1918 Hoguet and Coley only 0·38% in 3725 cases; these figures compare more than favourably with the results of some of the more modern complicated methods.

The main weakness of many follow-up investigations of patients who have undergone different operations is that many series are not followed up long enough. Ideally they should be followed up until the patient dies, because hernias can recur any time from hours to half a century or more after operation. Further, postal follow-ups are useless, because it is surprising how often a patient will say that he has a perfect result when the examiner finds a large symptomless recurrent hernia of incomplete type. Often in a patient who has had both inguinal canals operated on and complains of a recurrent swelling in one groin, the examiner finds a similar but symptomless swelling in the other groin quite unnoticed by the patient.

Recurrent Hernias.

A recurrent swelling is the worst and most common serious complication of any operation for an inguinal hernia. The term "recurrent" implies different meanings, depending on the person using it. To the patient it is another inguinal hernia. To the surgeon, its meaning differs. Apart from the fact that clinically the swelling is back again in the groin, it may at operation be found to be a direct hernia following an indirect or vice versa, and therefore an entirely new type of hernia and not a true recurrence. The recurrent hernia should be a similar type of hernia occurring again, whatever its cause. In the medico-legal world, the term "recurrent" is apparently confined to a hernia recurring spontaneously without fresh trauma within 12 to 18 months. Thus, when discussing recurrent herniæ, the surgeon should strictly define each hernia, especially as to its operative findings, so that there will be no doubt as to its true meaning.

At times attempts have been made to call recurrent inguinal hernias "incisional herniæ", especially by our legal friends; but this only adds confusion to an already confused terminology. The term "incisional hernia" should be reserved for hernias occurring through surgical incisions not in the groin. One could conceivedly apply it to the Spigelian hernia occurring after a Tanner slide, or that occurring through the suture holes of Gallie's fascial repair, or perhaps to the disruption of a conjoined tendon sutured to the inguinal ligament; but it is best to use the term away from inguinal hernia repairs.

Recurrent hernias can therefore follow any inguinal hernia operation, even herniotomy in early infancy, and hernias may recur several times after the most elaborate hernioplasties.

Why do inguinal hernias recur after apparently adequate operation? There are many reasons, certain of which are obvious — such as the post-operative continuance of pre-operative constipation, chronic coughing or urinary obstruction. It is easy to understand why post-operative vomiting and chest infections are so apt to occur in males who smoke. For the recurrences in males or even females whose convalescence has been uneventful, the following reasons may be invoked: the peculiar anatomy of the human inguinal canal, incomplete anatomical diagnosis at operation and heavy work.

The Peculiar Anatomy of the Male Inguinal Canal.

The peculiar anatomy of the male inguinal canal with its cord prevents water-tight closure round the internal ring, so that a further indirect hernial sac may follow the previously removed indirect sac. "Water-tight" is used advisedly, because the abdominal contents are almost water and act in a hydrodynamic fashion. If one sutures the internal ring too tightly, testicular damage occurs. At times, however, even if the cord is removed in the male, as is the round ligament in the female, a further indirect hernia can still occur. A Bassini repair thus will not stop an indirect hernia from recurring; it will only stop a later direct hernia from appearing.

Incomplete Anatomical Diagnosis at Operation.

If the surgeon operates on a direct hernia and misses the little indirect sac, or removes an indirect sac and neglects to perform a repair, then in the former instance an indirect hernia will come and in the latter a direct one. Neither is a true recurrence, but each is a further inguinal hernia nevertheless.

Heavy Work.

Whilst early ambulation does not cause recurrences, it is a well-known fact that heavy work, including heavy lifting, or ordinary work plus sudden strain such as a slip, will cause a recurrence, and is indeed the common cause of such recurrences in industry. Further, the earlier the return to work, the more likely is this to happen.

Symtomatology of Recurrent Inguinal Hernias.

Far too commonly no cause can be ascertained for recurrent inguinal hernias. They may just appear, and a patient to his astonishment one day finds a symptomless swelling in the groin; or perhaps, too, the examiner on routine examination may find a large symptomless recurrent hernia present unbeknown to the patient.

Another example occurs when a patient is lifting something heavy and feels "a sensation of a snap" or "as if something gives" in the groin and finds a large swelling there causing only little pain. It is obvious that this patient must have already had a symptomless recurrent sac, and this incident has aggravated it by causing pain, possibly mild, which has drawn his attention to it.

Then there is the patient in whom severe pain occurs in the groin after an incident, to be later followed by a swelling as in the original type of hernia.

Again, there is the patient who has had groin pain, thought to be due to ilio-inguinal nerve involvement, which may occur immediately after the original operation. This pain continues and is often worse after coughing, and months or even years later a hernia reappears and its removal cures the pain.

Operation.

In operating on a recurrent hernia, which can be very difficult — especially one which has recurred several times, or in which a prosthesis or non-absorbable sutures

have been used, causing fibrosis which is at times of almost cartilaginous consistency—one must try first to see what type of repair has been performed and undo it partially to get to the sac. Obviously, if a new indirect hernia is present, there is little point in undoing the previous Bassini type of repair which is preventing a direct hernia from appearing.

Recurrent hernia operations are apt to be followed by hæmatoma formation owing to the fibrosis present. Such hæmorrhage, too, may spread along the cord to the testicle, causing great thickness of the cord, which may be present for some months afterwards. The repeated dissection of the cord may also lead to a painful, tender and sometimes swollen testicle, which gradually subsides as time goes by. Some operations, too, even for indirect hernias, are followed by frequency of micturition, even though there is no urinary infection or involvement of the bladder as shown by cystoscopy. Such symptoms again subside by the process of time.

Summary.

The adult inguinal hernia is discussed. It is pointed out that most indirect sacs can be explained on a congenital basis, whereas in may instances the actual hernia — that is, sac *plus* contents — is caused by a rise in intraabdominal pressure, and hence is a material aggravation of a preexisting condition.

The importance of carefully kept records is stressed, especially in those cases likely to be followed by litigation.

Some points in operative technique are discussed, especially with regard to the sac and the search for the double sac. It is mentioned that most techniques of repair are modifications of the original Bassini operation, whose main function is to stop a later direct hernia from appearing; but it cannot prevent an indirect hernia.

The complications of prostheses and non-absorbable sutures as used in hernioplasties are detailed.

The fallacies of the "postal follow-up" are mentioned. Recurrent hernias are discussed, with some remarks on their causation.

References.

BULL, W., and COLEY, W. (1907), "Report of 2000 Operations for the Radical Cure of Hernia", *J. Amer. med. Ass.*, 49 : 1017.

DORAN, F. (1958), "Nylon-darn Repairs of Hernias", *Lancet*, 1 : 480.

HOGUET, J., and COLEY, W. (1918), "Operative Treatment of Hernias", *Ann. Surg.*, 68 : 255.

EVALUATION OF THE FINGER IMPRINT METHOD FOR SWEAT ELECTROLYTE ESTIMATION IN FIBROCYSTIC DISEASE OF THE PANCREAS.

By CHARLOTTE M. ANDERSON AND MAVIS FREEMAN,

Clinical Research Unit, Royal Children's Hospital, Melbourne.

SINCE the observation by Darling *et alii* (1953) of elevated levels of sodium and chloride in the sweat of patients with fibrocystic disease of the pancreas, a number of methods for the determination of these electrolytes have been introduced. Efforts have been directed towards simplification of the procedure both clinically and chemically, and towards its use as an easy means of diagnosis.

One of the simplest tests devised is that of Shwachman and Gahm (1956), later modified by MacFarlane *et alii* (1957), in which a finger-print impression is taken on a sensitive agar plate. In the preparation of the plate, an agar base is used to suspend silver chromate and a drop of sodium chloride or sweat produces a yellow-white zone on the surface of the plate. It is claimed that the intensity of this zone is correlated with the chloride concentration. MacFarlane *et alii* made an initial print, then subsequent prints at five-minute intervals for 20 minutes after the fingers were washed. This served to diminish some of the possible sources of error, such as the rate of sweating in individual cases and the length of time since the hands were washed or sucked by the child. Shwachman and Gahm investigated a large number of patients who were suffering from fibrocystic disease, and found strongly positive (+++) reactions in 138 of 140, and moderately positive reactions (++) in the other two; but among 77 healthy infants, 12 gave moderately positive reactions. They considered that the test was valuable as a screening procedure, but had limitations as a final diagnostic test. MacFarlane *et alii* found strongly positive reactions in all of their 54 patients with fibrocystic disease.

Simplification of tests may lead to their indiscriminate use in inexperienced hands, with the production of unreliable results. This disease can usually be diagnosed on clinical evidence if the underlying pathology is understood. Therefore, a reliable laboratory test is required to confirm the diagnosis. In this particular disease a falsely positive diagnosis can cause needless anxiety and overtreatment. It was with these points in mind that a comparison was made of the finger imprint method with our recently published (Anderson and Freeman, 1958) method, which uses an intradermal injection of mecholyl to induce local sweating, with subsequent chemical determination of the chloride.

Material and Methods.

Twenty patients with fibrocystic disease of the pancreas proved to have pancreatic achylia by duodenal intubation, and to have elevated sodium and chloride levels in the sweat by the use of the method of Anderson and Freeman, then had their finger prints taken exactly by the method described by MacFarlane *et alii*. These results were compared with those from 20 children of a similar age range, who were referred for diagnostic purposes and found not to have the disease.

Results.

The results are summarized in Table I. From these results it may be seen that the finger print plate tests do not always correlate with the estimated electrolyte levels. When results are compared from unwashed hands in the two groups, three out of 20 of the controls show a definitely "positive" finger print, whilst five show moderately "positive" prints. Interpretation between +++ and ++ is not always easy, and if done by different observers, variable results can be obtained. Therefore, if this part of the test alone is used, eight children would be suspected wrongly of the disease. In the fibrocystic series one out of 20 patients shows a "negative" print with the unwashed hand and four a moderately "positive" print only.

The results obtained after the hands were washed in the control series show one child with a moderately positive result after 20 minutes, and therefore only one would be suspect of the disease. However, in the fibrocystic series three children did not re-attain their positive reaction after 20 minutes, and five children attained only a moderately positive reaction, whereas three of these had had a definitely positive reaction before their hands were washed.

There was no overlap in the results of sweat chloride estimation in these 40 children when this was performed by the titration method and the upper normal level was taken as 70 mEq/l.

Discussion.

It is apparent that although the plate test gives clear-cut results in many instances, particularly if the test is carried out as suggested by MacFarlane *et alii*, it is not sufficiently reliable to be used as the only diagnostic test in doubtful cases. It is clear that the test must be carried out very carefully, and a personal communication from MacFarlane *et alii* reveals that the hand was held during the whole 20 minutes following washing to guard against the child's sucking it, and the results were all read by one person. If the unwashed hand is used, the test can be described as only a rough screening method. This is not what is required of the "sweat test". Other diagnostic tests such

TABLE I.

Comparison of Finger Imprint Test and Titration Method for the Estimation of Chloride in Sweat.

Subjects with Fibrocystic Disease of the Pancreas.						Controls.					
Initial Test.	Plate Test Imprint Minutes after Washing.				Chloride. (mEq/l.)	Initial Test.	Plate Test Imprint Minutes after Washing.				Chloride. (mEq/l.)
	5	10	15	20			5	10	15	20	
++++	+++	++++	++++		99	+++	+	+	+	++	23
++++	+++	++++	+++		118	+++	0	+	+	+	28
++++	+++	+++	+++		139	+++	0	0	0	0	44
++++	++	+++	++++		127	++	0	++	++		43
++++	++	++	++	+++	128	++	±	±	+	+	30
++++	+	++	++	++	130	++	0	±	+	+	44
++++	+	++	++	++	148	++	±	0	0	±	20
+++	+++	+++	+++		120	++	0	±	±	+	27
+++	++	+++	+++	+++	113	+	+	+	+		17
+++	++	+++	+++		110	+	0	+	+	+	18
+++	++	+++	+++	+++	111	+	0	±	+	+	49
+++	++	+++	+++	+++	78	+	±	±	±	±	44
+++	0	+	+	++	86	+	0	0	±	+	33
+++	0	+	+	++	113	+	0	0	0	±	36
+++	0	+	+	+	145	+	0	0	0	+	38
++	+	++	++		114	±	0	0	±	+	45
++	0	+	+	++	118	±	0	0	±	±	12
++	±	±	±	+	138	±	0	0	0	±	40
++	±	±	±	+	126	±	0	0	0	±	28
+	+	+++	+++	++++	102	±	0	0	0	±	36

as the duodenal intubation test have proved tedious and at times harmful to the child unless very carefully supervised, and the sweat test has become a very useful means of replacing the intubation test. However, the result obtained must be as reliable as possible. Clinical diagnosis by a careful physician is probably more accurate than the finger print method, and therefore the latter is not satisfactory for final diagnosis.

Kulczycki, as reported by Shwachman (1957), performed a screening finger print test on 1443 patients in a mental institution, and found 59 falsely positive reactions. On retesting after hand washing, only three among these patients gave a positive reaction, but their electrolyte values were within normal limits using a titration method. The finger print test may have a place in a research investigation as a screening test or in checking siblings or relatives or in trying to detect cases early in the neonatal period. However, if a positive result is obtained in a child or baby who has no relevant symptoms or signs, then the test should be repeated, using a titration method, before a diagnosis is made or fears are aroused.

Adult sweat electrolyte levels appear to be rather higher than those of children (Anderson and Freeman, 1958), and adult print tests certainly show many falsely positive results. Therefore, the test should be used with caution when an attempt is made to interpret the sweat electrolyte levels of parents.

The collection of sweat from a small patch on the arm following an intradermal injection of mecholyl, with the subsequent estimation of chloride by chemical means, is relatively simple. It can be done as an out-patient procedure, and the estimation of chloride by titration falls within the scope of laboratory facilities in most clinics. A thorough knowledge of the clinical story of this disease, the examination of the patient, and the results of other investigations such as an X-ray examination of the chest, the finding of fat globules in the stool, and the finding of *Staphylococcus aureus* in the throat swab or in the sputum, will usually make the diagnosis almost certain, and the laboratory test then necessary is one which will give the most accurate information available. This the finger print method will not do.

Summary.

Results from finger imprint tests are compared with sweat chloride levels obtained by titration for 20 patients with fibrocystic disease of the pancreas and 20 children who did not suffer from that disease.

The results show that the finger print test cannot be considered anything more than a screening test.

The clinician requires accurate confirmation of the diagnosis following his consideration of other evidence, and not a screening test.

A titration method for estimating sweat chloride gives reliable results, and is preferable to a method such as the finger print test, which has a considerable margin of error.

References.

ANDERSON, C. M., and FREEMAN, M. (1958), "A Simple Method of Sweat Collection with Analysis of Electrolytes in Patients with Fibrocystic Disease of the Pancreas, and their Families", MED. J. AUST., 1: 419.

DARLING, R. C., DI SANT'AGNESE, P. A., PEREIRA, G. A., and ANDERSEN, D. H. (1953), "Electrolyte Abnormalities of the Sweat in Fibrocystic Disease of the Pancreas", *Amer. J. med. Sci.*, 255: 67.

MACFARLANE, J. C. W., NORMAN, A. P. and STROUD, C. E. (1957), "Fingerprint Sweat Test in Fibrocystic Disease of the Pancreas", *Brit. med J.*, 2: 274.

SHWACHMAN, H., and GAHM, N. (1956), "A Simple Test for the Detection of Excessive Chloride on the Skin", *New Engl. J. Med.*, 255: 999.

YEAR BOOK OF PEDIATRICS (1957-1958 YEAR BOOK SERIES), edited by H. Shwachman, Year Book Publishers, Chicago: 192.

DEALING WITH RELATIVES OF MENTALLY ILL PATIENTS.[1]

By IAN SIMPSON, M.B., B.S., D.P.M.,
Sydney.

PSYCHIATRIC ILLNESS, for the most part, is an illness of interpersonal relationships, and we often find that it represents a reaction of the individual to the unfortunate attitudes of other individuals. For example, neurosis is usually the result of retarded emotional development and of emotional conflict, which in turn stems from the personal intra-family relationships. A mental disorder in one member of a family will leave its impact on all the other members, upsetting the balance, leading to a realignment of these other members and sometimes causing a breakdown of the adaptation.

Social psychiatry is coming more and more to understand and respect the totality of the family unit as an object of therapeutic concern. The degree to which relatives inspire recovery or cultivate helplessness of the

[1] Based on a lecture delivered at a meeting arranged by the the Post-Graduate Committee in Medicine in the University of Sydney, May, 1957.

patient may determine the ultimate outcome of the illness. So to neglect the family and relatives of the mentally ill may mean neglect of the patient.

Relatives as Aids to Diagnosis and Prognosis.

Gaining Information for Diagnostic Purposes.

It is frequently desirable to check the accuracy of the patient's history. This is particularly important for patients with hysteria, alcoholism and drug addiction, as such patients can be extremely plausible in their ability to exaggerate or distort the truth, or in telling downright lies. Many psychotic patients will conceal their delusions at an interview with the doctor, but the relatives may provide the necessary cues for careful questioning to elicit these delusions.

Of course, mental illness often places the relatives on the defensive, and they also are capable of distorting information quite considerably by either exaggerating or minimizing the seriousness of the difficulty by a process of wishful self-deception. Thus one often needs to develop an attitude of benevolent sceptism on realizing that relatives may have axes of their own to grind. They may try to defend themselves against their own feelings of guilt or anxiety or from the accusations of other relatives. The favourite causes of mental disorder spontaneously quoted by relatives are "overwork" and "head injury". If overwork is a factor, it is more frequently a symptom of the illness than an actual cause, being the result of feelings of inadequacy or inferiority, which the patient tries to conceal by appearing over-conscientious, or it may be an attempt by the patient to escape from problems by immersing himself in the job. Noyes (1948) states: "There is no evidence showing that mental effort in the absence of emotional stress and tension can produce either neurotic or psychotic reactions." A patient who is mentally ill or emotionally ill may find that his normal job requires a greater effort because of the handicap of his symptoms, and thus give the impression of being overworked. A relative, especially a mother, can always remember a head injury to explain backwardness, delinquency, epilepsy or mental illness; whilst one need not accept this explanation, as it is so seldom correct, it may be kinder not to contradict the relative's belief too dogmatically.

Gaining Information of Social Background of the Patient.

A knowledge of the social background of the patient will assist in an understanding of the possible causative factors in the patient's illness. One brief encounter with a wife, husband or parent may solve the whole problem of ætiology. In this respect, we have to assess such things as family antagonisms, clash of standards and ambitions, conflict between parents, rivalry of siblings, rejection, over-indulgence and spoiling. Parental attitudes are of special importance, and may be classified as follows: dominating, antagonistic, identifying, over-indulgent, over-protective and solicitous, perfectionistic, rejecting. The last may be masked by a façade of apparent over-solicitude and concern. This façade represents an attempt on the part of the parent to compensate for and placate the unconscious guilt feelings, because of the more basic rejection of the child.

The not-so-rare cases of *folie à deux* can be missed unless the close relatives are seen. One can receive some surprises, on interviewing the relative of a psychotic patient, to find that the relative is several degrees more crazy than the patient. Three main types of *folie à deux* exist, namely: (*a*) *Folie imposée*, where one of the individuals, usually the more intelligent, is the active element, and creates the delusion and imposes it on the passive one, who improves on separation from the active one. (*b*) *Folie simultanée*, where there is no actual communication, but a simultaneous development of delusions in two subjects. (*c*) *Folie communiquée*, where the delusions develop in the second subject after an initial period of resistance, and then evolve autonomously, being uninfluenced by separation of the two parties. A fourth type is where one already deluded psychotic subject enriches his own delusions with the specific delusions of a fellow patient. The predisposing factors conducive to the development of *folie à deux* are long and intimate association, social isolation, habitual domination of the passive by the active subject and some constitutional loading or predisposition.

Assessing the Environment to Which the Patient Will Return.

The prognosis of most mental illness is closely related to the environment to which a patient will return after he has undergone treatment in hospital. Efficient treatment may quickly lose its effect when a patient returns to a conflict-ridden atmosphere. In fact, it is sometimes quite remarkable to see how quickly some mentally ill patients improve merely by being removed from such an atmosphere.

Interviewing Relatives.

When a relative accompanies a patient to the doctor's surgery and obviously expects to share the consultation with the patient, with the exception perhaps of young children, I think it is a wise practice to see the patient first. By doing this, one makes the patient feel he has first claim on the doctor. The feeling some patients get that the doctor is already biased by the relatives' views is thus avoided. I believe that a more accurate assessment can be made by seeing patients and relatives separately. However, recent reports from the Menninger Clinic have pointed out certain advantages of an initial joint interview with both the patient and the relatives. These workers claim that it fosters a more active participation of the relatives in the patient's treatment programme, making them feel that they can be useful to the patient. It also provides an opportunity for the doctor to observe, first hand, the interaction of the patient and his family.

One should always endeavour to obtain the patient's consent to interview a relative, but there are, of course, some exceptions when one is dealing with psychotic patients, especially where a risk of suicide exists and the relatives need to be warned to be on guard against such an event.

Legal Aspects.

Mental Health Act (1958).

When admission to a mental hospital is indicated in order that a psychotic patient who lacks insight can be given appropriate treatment that he is unwilling to undergo voluntarily, the relatives should be given some practical information about the *Mental Health Act.*

It is worthwhile to correct the very common misconception that once the patient has been admitted to a mental hospital it is difficult or impossible for him to be discharged.

The usual procedure for admission is that a patient is taken to an admission centre upon the certificate (Schedule 2) of a medical practitioner who is of the opinion that the patient is mentally ill. By the endorsement of the certificate (Part II of Schedule 2) the assistance of a member of the police force can be obtained in conveying a patient to the admission centre. At the admission centre the patient is examined separately by two doctors, whereupon a magistrate, if satisfied that the patient is mentally ill, may direct that the patient be admitted to a mental hospital as a temporary patient for a period not exceeding six months. At the expiration of six months the patient is brought before a tribunal, consisting of a psychiatrist, a medical practitioner and a barrister or solicitor, which has the power to reclassify the patient as a continued treatment patient, or to extend the period of temporary admission for a further three months.

The patient may be discharged from the mental hospital at any time, (*a*) if the superintendent of the hospital is satisfied that further observation and treatment is not required, or (*b*) on application to the superintendent by any relative or friend of the patient. Should the superintendent refuse the application, and a period of three months has elapsed since admission, an appeal may be made to the Director of State

Psychiatric Services, or to any two or more official visitors, who have the power to order the discharge of the patient if they think fit.

The usual practice has been, that when sufficiently recovered, a patient is sent on leave subject to review every three months. After 12 months the leave may be extended or the patient discharged. Should readmission to hospital become necessary, a member of the police or a Welfare Officer can be directed to assist if the patient is uncooperative.

Relatives may desire information about the financial arrangements associated with admission to a mental hospital and the powers of the Master in the protective jurisdiction of the Supreme Court. They need reassurance that these provisions in the Act are for the protection of the patient's property, but due allowance is made for the maintenance of wife, children, estate, etc.

Inebriates Act.

A knowledge of the Inebriates Act is desirable where relatives require advice regarding the control of uncooperative alcoholics or drug addicts. An inebriate, as defined by the Act, means a person who habitually uses intoxicating or narcotic drugs to excess.

Under Section 3 of the Act, application to a judge or a magistrate may be made by one of the folowing: (*a*) the inebriate himself, or any person authorized in writing on his behalf whilst sober; (*b*) the husband, wife, parent, sister, son or daughter of full age or a partner in business of an inebriate; (*c*) a member of the police force of or above the rank of sub-inspector, acting on the request of a duly qualified medical practitioner in professional attendance on the inebriate or on the relative of an inebriate or at the instance of a Justice of the Peace.

A judge or magistrate may direct the inebriate to be brought before him in court or in chambers, and on proof to his satisfaction that the person is an inebriate may order: (i) abstinence with or without sureties for not less than 12 months; (ii) placement of the inebriate in the care of a person or in a hospital or receiving house for 28 days; (iii) placement in a licensed or state institution for a period not exceeding 12 months; (iv) placement under the care and charge of an attendant or guardian for any period not exceeding 12 months. No such order shall be made except: (i) on production of a medical certificate that the person is an inebriate, such certificate supplying facts observed by the doctor himself and distinguishing these from facts communicated by others; (ii) on corroborative evidence by some other person; (iii) on personal inspection of the inebriate by the judge or magistrate. The doctor who supplies the certificate cannot be one who makes application for an order.

Hospital Patients.

By the time a sick member enters a mental hospital, the strain on other members of the family has already been great. Hospitalization, whilst solving some problems, creates others for the relatives. These include feelings of shame, fears that they may be tainted with a mental disease and go the same way, feelings of guilt that they have in some way been responsible, fear of the outcome of the illness and fear of the patient's attitude to them, knowing that they have allowed his admission to hospital and his certification.

Long separations lead to emotional insecurity and to great anxiety over the return of the patient to the home, which may hinder the patient's ultimate progress because he may be sensitive to this anxiety and be contagiously affected by it.

Visiting Patients.

Visiting should be a source of comfort to the relatives and to the patient, but it may be inadvisable for the relatives to visit the patient in the first week after his admission to hospital until the patient becomes settled, otherwise the patient may persistently ask to be taken home. To do this means interfering with the patient's treatment, whilst a refusal makes both the patient and the relatives feel badly.

Relatives visiting a closed psychiatric ward for the first time show a variety of emotions. Some are timid, anxious and ashamed; others are proud, aggressive or hostile to the hospital. These relatives can be helped a great deal by the opportunity to talk to their family doctors whom they trust and by receiving their reassurance. During such discussion, it is beneficial to encourage them to express their feelings about the patient. Hostile feelings to the patient are often dispersed by being brought into awareness, and this ultimately helps the patient to make a better adjustment when he is discharged from hospital.

Hostile Relatives.

Mental illness in the family places many relatives on the defensive, and causes them to react according to their own fixed pattern of behaviour. The typically hostile relative is one who reacts aggressively and with ambivalence, denying any mental illness on the part of the patient and, at the same time, placing the responsibility for such illness squarely on the hospital, the medical profession or the government. These relatives belligerently demand an audience with the head doctor, the discharge of the patient, a private room and bath, a different doctor, more privacy, etc. They take the matter to their local members of parliament.

The hostility of these relatives is frequently not hostility to the hospital, but really a displacement of their own hostility to the patient. The interviewing of such relatives, and a sincere attempt to get them to recognize and discuss their true feelings to the patient, should be a definite part of the treatment programme.

The other variety of hostile relative is the one who is pleasant, cooperative, accepting and apparently understanding when interviewed, but who secretly sets in motion a ministerial inquiry. I do not know the answer to this variety.

During the patient's stay in hospital, there is a direct relationship between a patient's acceptance of or resistance to the loss of his identity and his reaction to his family. The patient who accepts this loss tends to resist the members of his family, who therefore need much encouragement to give him warmth, understanding, love and a consistent attitude.

Discharged Patients.

Admirable as may be any scheme to help the mental patient leave hospital, in the end his fate rests largely on the reception the patient will receive in his own home. The large mental hospitals have, on their staff, social workers who are available to interview relatives, investigate home circumstances and assess the environment to which a patient will return after treatment. I would like to see a closer liaison between these social workers and the family doctor, who also has an important rôle to play in the preparation of the family for the patient's return. Most families will willingly cooperate if they are given adequate moral support, guidance and encouragement. They need instruction in the manner in which they can support the patient's ego by providing work, recreation, good food and an objective attitude. Encouragement is all very well, but constant enthusiastic commands to "cheer up" are not helpful, and often do as much harm as ridicule and scorn. The essential condition for success in management is a relationship with the patient that is based on respect for his personality, a tolerance of his deficiencies and a sympathy and understanding for his predicament; all these demand humanity, wisdom, maturity and empathy.

After discharge from a mental hospital, the average patient feels inferior and stigmatized. Talking of his experiences in the hospital helps to make him feel more at home in the outside world. Far too many relatives decide not to talk of the illness and create a "taboo" topic, which makes the patient feel that he is the skeleton in the family closet. At the same time, gross overprotection must be avoided and activity encouraged, as this will absorb anxiety. Help and advice for an early return of the patient to remunerative employment are well worth while, for there is nothing better for the

patient's ego than to feel that once again he is functioning as an independent social and economic unit in the community. The local branches of the Commonwealth Employment Service will generally be helpful, and will show an added interest if approached by the patient's doctor.

I believe one of the best avenues for resocializing patients would be the establishment of therapeutic social clubs, run by the ex-patients and their relatives under the patronage of a socially-minded psychiatrist, and under the supervision of a mature social worker. Community recreational centres, with a structure equipped for improving the lives of urban dwellers suffering from social isolation and psychological degeneration of city life, are becoming popular in some parts of Great Britain.

Many relatives receive comfort by talking with the relatives and visitors of other patients. The group feeling and group identifications, resulting from the membership of some association of relatives or of an after-care organization, can be satisfying to a number of people, and advice to join such a group may be indicated.

Self-directed work may not be possible for some psychiatric patients, who then need a programme arranged for them. The relatives can help by organizing a daily routine—a balanced day of activity, diversion, rest, etc. The programme may start with easy tasks in order to give the patient confidence. The withdrawal of interest, so common to many patients, can be prevented if the outside world is made more attractive and stimulating. Physical activity, radio, music, sport, movies, bridge lessons, lectures, hobbies, painting and singing may all have their uses.

The fostering of good positive relationships with others tends to solve some of the psychological problems of humans who feel lonely, rejected or anxious about the opinions of others. Relatives can help by encouraging more socialized living and greater participation in group life. This can lead to greater confidence, less introspection and less escape from reality. Advice on the most suitable groups for any individual patient can be obtained from social workers, from local church groups or from the officers of the Adult Probation Service.

Marital Problems.

One of the first considerations when dealing with marital difficulties is whether the one doctor should deal with both husband and wife. In my opinion, this depends on whether one or both partners suffer from some neurosis or personality deviation. For two mature and comparatively well-adjusted people with a fairly superficial problem, the one doctor could deal with both partners, and may even see them together in a "round table" discussion. If one partner is suffering from a neurosis, the doctor may see both partners, but should do so separately, seeing the more normal one with the other one's permission, and then purely with a view to obtaining an objective account of the patient's behaviour or in assisting the normal one to understand the patient's condition. When both partners are neurotic or when personality problems of some depth exist, the husband and wife should see different practitioners, though it can be useful if the practitioners collaborate (but only if the patients agree to this).

Whilst it may seem impudent to be reminded of one's loyalty to the patient, when the patient (for instance a husband) suffers from a neurosis which results in disturbed behaviour, it is a great temptation to identify oneself entirely with the long-suffering wife and her problems, and thus become condemning or critical or judgemental in attitude to the patient. This, of course, results in failure to help the patient, who naturally will quickly lose faith in the doctor.

A marriage partner who complains of the other in some way sees the problem in his or her own fashion, and does not want the doctor's views forced on him or her. Too often the doctor will be authoritarian and directive, advising the wife to "leave the beast" or other such remark. This is not what the wife wants to hear. It is a judgemental attitude, which will usually increase the wife's anxiety.

Success in treatment depends on good judgement as to what needs changing and what the patient or relatives may welcome. The goal the doctor hopes to achieve may not correspond at all to that which the relatives consider a desirable outcome.

The personality of one marriage partner may complement the other in such a pathological fashion as to make the bond indissoluble in spite of the accompanying dissatisfaction and constant complaining. For example: (i) The masochistic wife married to the sadist. (ii) The "saviour" marriage, in which a delinquent husband acts out his wife's repressed "rebellion" against her straight-laced upbringing, the wife thereby obtaining vicarious satisfaction. (iii) The marriage of ambition, in which the husband or wife with feelings of inferiority reaches above his or her station, making an unrealistic choice in order to boost his or her own ego. (iv) The "dependent" marriage, in which a mother-son or father-daughter rôle is re-enacted. (v) The "black-widow" marriage, in which the dominant wife lives out her "masculine protest" in her marriage to a timid, unaggressive partner. In these instances, the doctor may be consulted merely as a means for the patient to let off steam or because of pressure from well-meaning relatives or friends, but with little real desire on the part of the patient to alter the the situation.

Public Opinion.

Public opinion towards mental illness is gradually becoming more enlightened. The chief factors which have brought about this change are first, the dispersion of attitudes of distress, fear and mystery through knowledge, and secondly, the discovery of physical methods of treatment and the recognition that mental disease is treatable. However, any new treatment which proves highly successful in specific diseases is apt to be used in other illnesses with a poor prognosis, in the faint hope of effecting some improvement. When these latter patients fail to improve or, in fact, worsen, the treatment may be blamed for the deterioration, which is but part of the natural course of the illness.

Thus relatives and patients may oppose the specifically indicate use of electroconvulsive therapy, claiming that they have known a patient who had it and became worse, etc. This is how certain treatments lose their reputation.

Home and Family Care of Mentally Ill Patients.

Many families will wish to care for mentally ill patients at home, in preference to allowing their admission to a mental hospital. The beds of the mental hospitals are already severely taxed, so as a general principle, home care should be encouraged except where some active treatment, only available in hospital, is indicated for the patient's benefit, even though, to undergo this, certification of the patient is necessary. I believe that it is desirable for certain families to assume responsibility for their invalids instead of "passing the buck" to the State. In addition, if a patient is cared for at home, there is no problem of reacceptance or readjustment after long absence, no feelings of guilt of having "put him away", no feeling of concern of what other people may think or say. However, one has also to think of the effect on other members of the family of having a mental invalid in the house, especially the effect on children and adolescents.

One hopes that by the introduction of day hospitals, day centres, adequate domiciliary services and other community resources, the family will be given more practical support.

Suicidal Risks.

Relatives may need to be warned of suicidal risks. (i) The most frequent attempts at suicide are made by those subjects with an hysterical personality, who have motives of spite, revenge, attention-seeking or frightening someone into submission. The danger lies in the fact that some may accidentally succeed, especially when alcohol taken in excess, interferes with judgement. (ii) The confused, disorientated or delirious patient, who shows undue fear and apprehension and who has visual hallucinations and illusions of a frightening or persecutory type.

needs careful supervision, especially at night time. (iii) Schizophrenia may result in auditory hallucinations, consisting of "voices" directing the patient to self mutilation or to self destruction. This is particularly a danger when undue puzzlement occurs and when a patient has strong delusions of sin with guilt feelings. (iv) Paranoid psychosis is a sign of danger when delusions of persecution exist, and the individual has strong feelings about the delusionary ideas. (v) Depressive reactions of various types, particularly the depressive phase of manic-depressive psychosis, may lead to suicide.

Danger Signs.

The following are the danger signs in a subject. (a) A deep mood of depression accompanied by feelings of utter hopelessness, pessimism and agitation. The last may be shown by pacing, wringing the hands, picking the skin or banging the head. A grim resignation that is quite unresponsive to any reassurance and is accompanied by ideas of guilt is likewise a serious warning. (b) Persistent anorexia, loss of weight, insomnia and impotence accompanying a persistent mood of depression. (c) Depressive delusions of having committed the unpardonable sin, or of having some incurable disease. (d) Depressive ideas persisting in the recovery phase, when retardation is diminishing. (e) Increased tension in a persistently depressed mood without obvious external cause, especially if associated with feelings of unreality and loss of ability to feel affection for loved ones.

Interpreting the Illness to the Relatives.

The interpreting of the illness to the relatives may sometimes prove a most difficult task. The capacity for insight varies more in relatives than in patients, so in answering the questions as to the nature and cause of the illness, one has to use careful judgement. Simple relatives need simple statements that they can understand; e.g., instead of one's trying to explain a state of retarded depression in scientific terms, a statement to the effect that the patient has "dropped his bundle" may be more acceptable. It is prudent to avoid giving heredity as a cause unless there are very good practical indications for doing so. This invariably leads to accusations and counter-accusations from the two sides of a patient's family.

The pseudo-intellectual sophisticated relatives, who have studied Freud's collected papers as well as other psychiatric literature, and who have their own theories of the patient's illness in terms of the castration complex or Oedipus situation, should be listened to with respect, but dispatched to the nearest available psychiatrist with the greatest of speed, as they are the most dangerous menace of all to the patient, and are usually themselves somewhat in need of help.

Conclusion.

In conclusion, may I quote from Addison Mizner: "God gives us relatives; thank God, we can choose our friends."

Acknowledgement.

This paper is published with permission of the Post-Graduate Committee in Medicine in the University of Sydney.

References.

NOYES, F. B. (1948), "Modern Clinical Psychiatry", 3rd Edition, Saunders, Philadelphia and London.

Reports of Cases.

ASCENDING PARALYSIS FOLLOWING MALATHION INTOXICATION: A CASE REPORT.

By J. K. HEALY, M.B., B.S.,

The Royal North Shore Hospital of Sydney.

IN recent years, attention has been drawn to the effects of acute poisoning by organic phosphate insecticides (Quinby and Lemmon, 1958; Thölen and Metzler, 1955; Hunter, 1955; Radcliff *et alii*, 1955; Grob and Harvey, 1953). These substances are used in agriculture for the control of soft-bodied insects, and are available to home gardeners. Of the many chemicals in this group, parathion (diethyl-p-nitrophenyl thiophosphate), D.F.P. (di-isopropyl fluorophosphate) and malathion (O,O-dimethyl dithiono-phosphate of diethylmercaptosuccinate) are the most widely known.

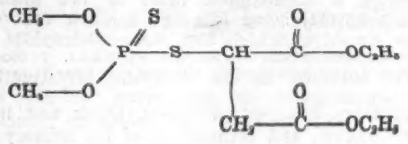

FIGURE I.

Malathion (from Dreisbach, 1955).

Acetylcholine is normally destroyed in the body by the enzyme acetylcholinesterase, with which it combines. Organic phosphate esters act by combining with and inactivating this enzyme (Dreisbach, 1955). Thus there is competitive inhibition of the enzyme between the phosphate esters and acetylcholine, and if the concentration of the poison is sufficiently high, it becomes irreversibly combined with acetylcholinesterase (Wirth, 1954). This process leads to the accumulation of large amounts of acetylcholine, with resultant widespread effects, which are in accordance with its nicotinic, muscarinic and central nervous actions, and include vomiting, diarrhœa, pin-point pupils, sweating, an elevated blood pressure, weakness, anxiety, fever and coma (Grob and Harvey, 1953).

Absorption of the organic phosphate esters may occur through the skin, the lungs and the alimentary tract (Hunter, 1955). It has been found that repeated small exposures have a cumulative effect, causing a gradually increasing inhibition of acetylcholinesterase, reflected by a gradual lowering of the blood cholinesterase level. This does not produce symptoms until a critical point is reached, and ultimately only a small amount of poison is needed to depress the acetylcholinesterase beyond this point, which leads to all the symptoms of acute poisoning (Du Bois *et alii*, 1953).

Petry (1951), Bidstrup *et alii* (1953) and Hunter (1955) have described an ascending motor paralysis due to organic phosphate esters, occurring some days or weeks after the symptoms of acute intoxication have appeared. This is a rare complication in humans, but can be more readily produced in experimental animals (Barnes and Denz, 1953). Only three cases have been reported in humans, and the esters involved were parathion and "Mipafox".

The present case report is of interest for the following reasons. Firstly, poisoning by malathion is less common than is poisoning with other readily available members of the group. Secondly, an ascending paralysis developed some weeks after the acute symptoms appeared, and this has not previously been observed after malathion intoxication. Thirdly, there developed hypertension and glycosuria, which had interesting characteristics.

Clinical Record.

A boy, aged 18 months, had had no illnesses since birth. During the six weeks prior to his admission to hospital he had been exposed daily to malathion, which was used as a garden spray. Apart from what he had absorbed by the skin and inhaled, an unknown amount had been ingested by eating the buds from plants that were sprayed. Soon after spraying commenced he became irritable and lost his appetite. These symptoms persisted, and he became feverish within a week. During the next six weeks he lost seven pounds in weight and developed polydipsia. In the third week of his illness he had an attack of diarrhœa, nausea, fever and vomiting, lasting 24 hours. Three days before his admission and six weeks after the initial symptoms, he was seen to drag his legs at times when walking and he fell over easily.

On his admission to hospital, he was unable to stand up and was very irritable. His temperature was 99·8° F. and his pulse rate 130 per minute. There was weakness of both lower limbs, most marked distally. The tendon reflexes were generally diminished. There was no neck stiffness or photophobia, and sensation was not impaired. The cranial nerves were intact. Examination of his urine revealed moderate glycosuria and ketonuria. Investigations revealed a hæmoglobin value of 13·5 grammes per 100 ml., a normal blood film and a white cell count of 10,200 per c.mm., of which 55% were neutrophils. The erythrocyte sedimentation rate was normal. Normal findings were obtained in the following investigations: microscopic examination of the urine, culture of a throat swab, X-ray films of the chest, trunk and limbs, an electrocardiogram, and estimations of the urinary lead excretion, blood urea content, blood sugar level in a random specimen, and serum sodium, potassium and calcium levels. There was no increased amount of coproporphyrin in a 24 hour urine specimen. A Mantoux test (1: 1000) gave a negative result. Lumbar puncture revealed no abnormality.

Three days after his admission to hospital, his condition progressed to a complete flaccid paralysis of the lower limbs, and he remained febrile, anorexic and irritable. During the next few days the patient's weakness spread to involve the trunk and the upper limbs. The cranial nerves were still not involved. The systolic blood pressure was 210 mm. of mercury. Investigations repeated at this stage revealed a still normal erythrocyte sedimentation rate and an increase in the white cell count to 15,300 per c.mm., of which 66% were neutrophils. The glycosuria ceased after three days.

At this point it was decided to try the effect of atropine administration, since atropine is the antidote to malathion (Dreisbach, 1955). A dose of 0·2 mgm. was given hypodermically and repeated in half an hour. A fall in systolic blood pressure to 150 mm. of mercury resulted, and there was a slight return of motor power in the hands and wrists. It was decided to continue atropine therapy, and during the next few days he received 1·2 to 2·4 mg. of atropine hypodermically per day, in three-hourly doses. Despite these large doses he still had small pupils, was pale and sweaty and had one to three bowel actions a day. He showed no signs of atropine overdosage. He was then given 1·2 mg. per day for three weeks without side effects. Motor power improved considerably over this time. He regained full hand and arm movements, but the legs had only started to recover by the fourth week, by which time he could sit up again. His temperature, which had risen to 100° F. each day, fell to normal by the eleventh day and remained so.

A blood cholinesterase estimation was performed nine days after his admission, and this was found to be normal. This was at least 15 days after his last exposure to malathion.

In spite of the atropine, his blood pressure remained at 170 to 190 mm. of mercury, systolic, and 120 to 140 mm., diastolic. Reserpine, in a dose of 0·05 mg. three times a day as an elixir, was added to his treatment, and his blood pressure then fell to 120/70 mm. of mercury, and after four weeks to 90/60 mm. of mercury. His mental state and appetite returned to normal in four weeks.

Discussion.

The Nature of the Paralysis.

The nature of the paralysis resulting from organic phosphate ester intoxication is obscure. Barnes and Denz in 1953, working on fowls, studied the action of organic phosphate esters, D.F.P. and "Mipafox", and compared them with tri-ortho cresyl phosphate (T.O.C.P.). It was well known that T.O.C.P. will commonly cause demyelination and an ascending paralysis in humans (Smith and Lillie, 1931; Hunter, 1955; Dreisbach, 1955). T.O.C.P. acts by inhibiting non-specific cholinesterases, but not acetylcholinesterase. It produces demyelination of the peripheral nerves and degenerative changes in the muscles and spinal cord. The relation between the inhibition of cholinesterases and nerve demyelination is unknown (Dreisbach, 1955).

Barnes and Denz found that in fowls two weeks after an episode of acute intoxication with D.F.P. or "Mipafox", a form of paralysis developed which they showed histologically to be associated with demyelination of the peripheral nerves and spinal cord. This paralysis developed in all of nine birds given D.F.P., and in seven out of 21 given "Mipafox". They also observed that both D.F.P. and "Mipafox" produced a similar initial depression of serum cholinesterase levels, which is a reflection of the degree of inhibition of acetylcholinesterase. However, the serum cholinesterase level returned to normal in 35 days after D.F.P. intoxication, but was depressed for 70 days after "Mipafox". "Mipafox" was therefore the more powerful depressant of cholinesterase, but D.F.P. the more likely to produce paralysis.

These workers also tested other organic phosphate esters without producing paralysis, in spite of marked depression of serum cholinesterase levels. Barnes and Denz concluded that no single characteristic, either chemical or anti-cholinesterase, distinguished D.F.P., "Mipafox" and T.O.C.P. from those substances tested which did not produce paralysis.

Durham, Gaines and Hayes, in 1956, tested the effects of many organic phosphorus compounds on chickens, and found that delayed paralysis occurred only after "Mipafox" and T.O.C.P. They remarked on the appearance of an immediate muscle weakness of the same clinical nature as the delayed effect, which was seen only after malathion and was reversible after four to 21 days.

Reference to malathion is not very detailed in the literature. Hazleton and Holland (1953) found that guinea-pig plasma cholinesterase levels returned to normal 10 to 19 days after administration of malathion. This could explain a normal blood cholinesterase level in the present case, since it was at least 15 days after the child's last exposure to malathion when the level was measured. However, Hazleton and Holland found that red-cell and brain cholinesterases were still inhibited in guinea-pigs 19 days after administration of malathion. These workers provide evidence of other modes of action of malathion. They point out that local lung damage can follow inhalation in guinea-pigs, without ever significantly lowering the blood cholinesterase level.

One may therefore conclude that the action of the organic phosphate esters is more complex than can be explained by a simple inhibition of acetylcholinesterase.

The Glycosuria.

In our case transient glycosuria occurred. This is of interest, because similar findings have been made by Parker and Chattin (1955), who reported a case of acute malathion intoxication in which an elevated cerebro-spinal fluid sugar level and an elevated blood sugar level were found. Rausch and Ladwig (1954) reported the development of diabetes mellitus after poisoning with parathion, and they described œdema and hyperæmia of the pancreas in such cases.

The Elevated Blood Pressure.

It has been reported than an elevated blood pressure may follow poisoning with organic phosphate esters (Grob *et alii*, 1950; Rausch and Ladwig, 1954). Grob *et alii* (1950) stated that hypertension was observed in man only after parathion, and not after D.F.P. or tetraethyl pyrophosphate (T.E.P.P.), these being the three substances they tested. However, they found that D.F.P. and T.E.P.P. would produce hypertension in dogs, although D.F.P. and T.E.P.P. are more powerful inhibitors of cholinesterase than parathion. Therefore, they suggested that the hypertension was not directly due to the anti-cholinesterase action of organic phosphate esters. They postulated an adrenaline release, which could also account for the fever and leucocytosis associated with intoxication by these substances. Hazleton and Holland produced an elevated blood pressure in dogs with malathion.

It is of interest that Grob *et alii* (1950) found that the elevated blood pressure referred to rose even higher if neostigmine or other directly acting cholinergic drugs were given, instead of falling, as is the usual response. In our case, it was found that atropine in a hypodermic dose of 0·2 mg. produced a fall in blood pressure from 185/140 to 140/90 mm. of mercury in 15 minutes, and to 140/60 mm. of mercury in two hours. This occurred without producing peripheral vasodilation, and the blood pressure returned to 185/120 mm. of mercury three hours after the injection.

Krantz and Carr (1951) state that therapeutic doses of atropine produce no significant changes in blood pressure in the normal person. Larger doses of the drug cause a rise in blood pressure. Very large or repeated doses of atropine produce a fall in blood pressure associated with peripheral vasodilation. In the present case the response was not in accordance with any of these three categories.

Conclusions.

1. Malathion can produce acute symptoms and signs related to acetylcholinesterase inhibition including diarrhœa, vomiting, pin-point pupils, fever, etc.

2. Paralysis may occur some weeks after intoxication, even though the acute symptoms have subsided. It follows the pattern of an ascending demyelination.

3. Hypertension and glycosuria may appear and are transient.

4. The paralysis does not seem to be related to the anti-cholinesterase activity of malathion.

Summary.

The mode of action of organic phosphate esters is described.

A case of paralysis following malathion intoxication is described, in which hypertension and glycosuria also occurred.

The nature of the paralysis, hypertension and glycosuria is discussed.

Conclusions are drawn regarding the mode of action of malathion.

Acknowledgements.

I wish to express my thanks to Dr. Wallace Freeborn, General Medical Superintendent, The Royal North Shore Hospital of Sydney, for permission to report this case, and to Dr. Clair Isbister, F.R.A.C.P., D.C.H., Dr. D. W. Piper, M.R.C.P., M.R.A.C.P., and Dr. D. J. Deller, M.R.A.C.P., for their help and advice in the management of the patient and in the preparation of this paper.

References.

BARNES, J. M., and DENZ, F. A. (1953), "Experimental Demyelination with Organo-phosphorus Compounds", *J. Path. Bact.*, 65: 597.

BIDSTRUP, P. L., BONNELL, J. A., and BECKETT, A. G. (1953), "Paralysis following Poisoning by a New Organic Phosphorus Insecticide ('Mipafox')", *Brit. med. J.*, 1: 1068.

DREISBACH, R. H. (1955), "Handbook of Poisons", 74.

DU BOIS, K. P., DOULL, J., DEROIN, J., and CUMMINGS, O. K. (1953), "Studies on the Toxicity and Mechanism of Action of some New Insecticidal Thionophosphates", *A.M.A. Arch. industr. Hyg.*, 8: 350.

DURHAM, W. F., GAINES, T. B., and HAYES, W. J. (1956), "Paralytic and Related Effects of Certain Organic Phosphorus Compounds", *A.M.A. Arch. industr. Hlth*, 13: 326.

GROB, D., and HARVEY, A. M. (1953), "The Effects and Treatment of Nerve Gas Poisoning", *Amer. J. Med.*, 14: 52.

HAZLETON, L., and HOLLAND, E. (1953), "Toxicity of Malathion", *A.M.A. Arch. industr. Hyg.*, 8: 399.

HUNTER, D. (1955), "The Diseases of Occupation", 350.

KRANTZ, J. C., and CARR, C. J. (1951), "The Pharmacological Principles of Medical Practice", second edition, Williams and Wilkins, Baltimore: 718.

PARKER, G. F., and CHATTIN, W. R. (1955), "A Case of Malathion Intoxication in a Ten Year Old Girl", *J. Indiana med. Ass.*, 48: 491.

PERRY, H. (1951), "Polyneuritis due to E 105", *Zbl. Arbeitsmed.*, 1: 86.

QUINBY, G. E., and LEMMON, A. E. (1953), "Parathion Residues as a Cause of Poisoning in Crop Workers", *J. Amer. med. Ass.*, 166: 740.

RADCLIFF, R. D., WOODWARD, G. T., WICKERSON, W. J., and BUSHLAND, R. C. (1955), "The Acute Toxicity of Chlorinated Hydrocarbon and Organic Phosphorus Insecticides to Livestock", *U.S. Dept. Agric. tech. Bull.*, November: 1122.

RATHUS, E. M., and BOTTOMLEY, W. P. (1958), "Parathion: Its Uses and Hazards, with a Report of a Fatal Case of Poisoning", *Med. J. Aust.*, 2: 88.

RAUSCH, F., and LADWIG, W. (1954), "Clinical Course of Therapy of a Patient Poisoned with Parathion; Development of Diabetes Mellitus", *Ärztl. Wschr.*, 9: 1053.

SMITH, M. I., and LILLIE, R. D. (1931), "Histopathology of T.O.C.P. Poisoning. Etiology of so-called Ginger Paralysis", *A.M.A. Arch. Neurol. Psychiat.*, 26: 976.

THÖLEN, H., and METZLER, E. (1955), "Poisoning with Insecticides, Especially Organic Phosphorus Compounds", *Schweiz. med. Wschr.*, 85: 296.

WIRTH, W. (1954), "Pharmacology and Toxicity of Insecticides, Parathion and Systox", *Dtsch. med. Wschr.*, 79: 1205.

Addendum.

Rathus and Bottomley (1958) discussed the use of 2-pyridine aldoxime methiodide (2-P.A.M.), a substance which reactivates cholinesterase. It is non-toxic and of great value in cases of acute intoxication, but its effect on delayed paralysis is not known. It was unfortunately not used in our case; but in view of the apparent complexity of action of malathion, its effect would probably not have been dramatic.

Reviews.

The Incurable Wound and Further Narratives of Medical Detection. By Berton Roueché; 1958. London: Victor Gollancz, Limited. 7¾" × 4¾", pp. 178. Price: 20s. 6d.

AT first sight it might seem something of a busman's holiday for a doctor to read case reports dressed up as fiction—he sees too many of them in real life. But a little persistence soon reveals Mr. Roueché's skill in presenting interesting and intriguing facts in a light and palatable form. The story of the discovery that, in parts of North America, rabies is sometimes carried by ordinary insectivorous bats is particularly fascinating, and this story gives its title to the book. The author's strict regard for medical and scientific fact is an essential quality of this collection of stories. As a means of whiling away the occasional half hour on a tedious journey, this book may be confidently recommended to lay and professional readers alike.

New Biology. Edited by M. L. Johnson, Michael Abercrombie and G. E. Fogg; 1958. Mitcham, Victoria: Penguin Books, No. 27. 7" × 4¼", pp. 128, with illustrations. Price: 4s.

THIS latest volume in the New Biology series contains the usual diverse variety of articles, each written by an expert in his own subject. Those of medical and paramedical interest are: (i) an article on subsception (subliminal advertising is the guise in which this subject is most familiar); (ii) an article on grafting tissue between animals (the fate of the homograft); (iii) an informative article on fungous diseases of man and animals, written from the point of view of the biologist rather than the doctor, a refreshingly new approach; (iv) a minor monograph on the round worm, which leaves one surprised that so much should be known about so humble an object. For those who like their reading matter to be solid and factual, the volumes of this series provide a varied diet of unimpeachable authority.

Prescription Proprietaries Guide for Doctors and Chemists 1959. Edited by Geoff K. Treleaven, Ph.C., F.P.S.; 1958. Melbourne: Australasian Pharmaceutical Publishing Company, Limited. 8¼" × 5¼", pp. 364. Price: £5 7s. 6d.

THIS volume is intended to replace the Prescription Proprietaries Cards with which most Australian practitioners are probably familiar, if only as samples. It is put out by the Committee of Management of *The Australasian Journal of Pharmacology*, under the editorship of G. K. Treleaven. The main part of the volume is an alphabetical index of proprietary preparations; under each entry are shown the composition, indications, dosage, contraindications, pack and supplier of, and drug regulations concerning, the preparations in question. It is proposed to keep the volume up to date by means of quarterly supplements, with the promise of a complete new edition in two years' time. Other sections of the volume are: (i) tables of State regulations controlling

drugs and poisons (the effect of any amendments to the State regulations will be summarized in the first supplement published after such changes are announced); (ii) an index of approved names, giving the proprietary and alternative names of each; (iii) a therapeutic index, listing the names of appropriate preparations under such headings as "Ulcers, Peptic, Duodenal and Gastric", or "Urine Tests"; (iv) and (v) lists of antihistamines and tranquillizers; (vi) an index of poisons, stating briefly treatments and antidotes.

This is not the only book of its kind on the Australian market, but it has the important advantage of being the most recent and of being supported by an organization for keeping it up to date by means of regular supplements at frequent intervals. We imagine that with the endless multiplication of proprietary names and preparations, most general practitioners find it necessary to have some volume such as this at their disposal.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Congrès National des Sciences Médicales: Communications des Invités Etrangers, Bucarest, 5-11 Mai, 1957", Editions de L'Académie de la République Populaire Roumaine. 9¼" x 6¼", pp. 916, with many illustrations. Price: not stated.

The communications recorded deal with all aspects of medicine.

"A Search for Man's Sanity", The Selected Letters of Trigant Burrow, with Biographical Notes prepared by the Editorial Committee of The Lifwynn Foundation: William E. Galt, Chairman; with a foreword by Sir Hubert Head; 1958. New York: Oxford University Press. 8¼" x 5¼", pp. 640; Price: $8.75.

Selected letters of one of the men who brought psychoanalysis to America.

"Principles of Ethics", by Dom Thomas Verner Moore, M.D., Ph.D., Completely Revised by Dom Gregory Stevens, S.T.D.; Fifth edition; 1959. Philadelphia and Montreal: J. B. Lippincott Company. Sydney: Angus & Robertson Limited. 8" x 5", pp. 296. Price: 66s.

The authors are from the Catholic University of America.

"Parasitology (Protozoology and Helminthology) in Relation to Clinical Medicine", by K. D. Chatterjee, M.D.; Second Edition, 1959. Calcutta: K. D. Chatterjee. 9¼" x 6¼", pp. 196, with 92 illustrations. Price: Rs. 17.50 (India).

The first edition was published in 1957.

"The Rewards of Medicine and Other Essays", by Hugh Barber, 1959. London: H. K. Lewis & Co. Limited. 8¼" x 5", pp. 144. Price: 15s. (English).

Fifteen essays by one of Britain's elder medical men.

"Small Malady Malignant", by Alfred Fosse, 1959. London: Christopher Johnson. 8¼" x 5", pp. 78. Price 8s. 6d. (English).

The preface says of this book: "it is not written for any particular class of reader; it is not a don's book for dons, a critic's book for critics, a doctor's book for doctors; it is unspecialist, uncalled for and perhaps unintelligible".

"The Recovery Room: A Symposium", by John Adriani, M.D. and John B. Parmley, M.D.; 1958. Oxford: Blackwell Scientific Publications. 8¼" x 5¼", pp. 136, with 13 illustrations. Price: 32s. 6d. (English).

A variety of questions relating to recovery rooms in hospitals are answered by 45 contributors.

"Christ and Freud: A Study of Religious Experience and Observance", by Arthur Guirdham, M.A., D.M., B.Sc. (Oxon.), D.P.M., with a preface by Lawrence Durrell. London: George Allen & Unwin, Limited. 8¼" x 5", pp. 196. Price: 21s. (English).

The author's aim is "to study the psychiatric foundations of religion and also, conversely, to estimate to what extent religious factors are important in relation to psychiatric conditions and more especially to neurosis".

"Science News" No. 51, edited by Archie and Nan Clow; 1959. Mitcham, Victoria: Penguin Books Pty. Ltd. 7" x 4", pp. 128, with illustrations. Price: 4s.

Contains six articles and a research report.

"La Médecine Légale Judiciaire", by Jean Planques; 1959. Paris: Presses Universitaires de France. 7" x 4¼", pp. 128. Price: not stated.

A short book in French on forensic medicine and psychiatric aspects of medico-legal matters by the Professor of Legal Medicine and of Industrial Medicine in the Faculty of Medicine of Toulouse.

"IV Congreso Venezolano de Cirugia, Organizado por el Capitulo Larense de la Sociedad Venezolana de Cirugia", Volume 3; 1957. Caracas: Prensa Medica Venezolana. 9" x 6¼", pp. 1040-1452. Price: not stated.

The third volume of the proceedings of the fourth Venezuelan Congress of Surgery held in March, 1957. It is entirely in Spanish.

"The Innervation of Muscle: A Biopsy Study", by C. Coërs and A. L. Woolf, M.D.; 1959. Oxford: Blackwell Scientific Publications. 9¼" x 7¼", pp. 168, with 280 illustrations. Price: 42s. (Abroad).

The findings from over 450 biopsy studies according to new special methods.

"Clinical Neurophysiology", by John Marshall, M.D., F.R.C.P. (Ed.), M.R.C.P., D.P.M. (Lond.); 1959. Oxford: Blackwell Scientific Publications. 8¾" x 5¼", pp. 304, with 157 illustrations. Price: 37s. 6d. (Abroad).

This book is intended "to give the clinician a sufficient background of knowledge to enable him to view his clinical practice from a scientific standpoint and appreciate the significance of the advances in neurophysiology which are being made".

"The Symptoms as Communication in Schizophrenia", edited by Lieutenant-Colonel Kenneth L. Artiss, M.C.; with four contributors; Introduction by David McK. Rioch, M.D.; 1959. New York and London: Grune & Stratton, Inc. 8¼" x 5", pp. 240. Price: $5.75.

A monograph presenting "certain of the results obtained in the course of a multidisciplinary investigation initiated in 1955 by the Division of Neuropsychiatry of the Institute of Research in collaboration with the Department of Psychiatry of the Hospital at the Walter Reed Army Medical Center".

"Electrocardiography", by Michael Bernreiter, M.D., F.A.C.P.; 1958. Philadelphia, Montreal: J. B. Lippincott Company. Sydney: Angus & Robertson, Limited. 9" x 6¼", pp. 350, with 92 figures and 1 table. Price: 55s.

The author's aim is to outline the fundamental aspects of electrocardiography as they are encountered in everyday practice.

"Group Processes: Transactions of the Fourth Conference, October 13, 14, 15 and 16, 1957, Princeton, N.J.", edited by Bertram Schaffner, M.D.; 1959. New York: Josiah Macy, Jr. Foundation. 9" x 5¼", pp. 168, with 9 illustrations. Price: $4.50.

Contains papers and discussions on "The Impact of Game-Ingredients on Children's Play Behavior", "Implications for Our Current Models of Personality", "Group Size, Interaction, and Structural Environment" and "The Role of Aggression in Group Formation".

"Immunity and Virus Infection: Symposium held at Vanderbilt School of Medicine, May 1-2, 1958", edited by Victor A. Najjar, M.D.; 1959. New York: John Wiley & Sons, Incorporated. London: Chapman & Hall, Limited. 9" x 5¾", pp. 272, with many illustrations. Price: $10.50.

Contributions originating in basic research, as well as in biological and clinical investigations, pertainng to the mechanism of immunity and the study of virus infection, are included.

"The Surgical Clinics of North America: February, 1959", Volume 39, Number 1: Chicago Number, 1959. Philadelphia & London: W. B. Saunders Company; Melbourne: W. Ramsay (Surgical) Limited. 8¾" x 5¾", pp. 268, with many illustrations. Price (Bi-monthly journal): Cloth binding, £8 2s. 6d.; paper binding, £6 15s.

Contains a symposium on surgical therapeutics by members of the staffs of the hospitals and medical schools of Chicago. The consulting editor is F. John Lewis, M.D.

The Medical Journal of Australia

SATURDAY, JUNE 6, 1959.

MEDICINE AND CIVIL DEFENCE.

THE President of the American Medical Association, Dr. Gunnar Gundersen, said[1] in an address given in November, 1958, to those attending the Ninth County Medical Societies Civil Defense Conference in Chicago:

> I believe that it is you who must inspire, convince, cajole, or prod other members of the profession to accept their responsibility in any emergency situation. It is only by the establishment of a broader base of participation by the profession in civil defense affairs that medicine will not be found wanting when disaster strikes.

These words, it should be noted, were spoken 13 years after the appointment by the American Medical Association of a special committee to study emergency medical services during war or grave national emergency. The medical profession in America, Dr. Gundersen pointed out, was aware of the problem and alert to the need for its solution fully five years before the government enacted civil defence legislation; yet he apparently still thought it of vital importance in 1958 to stir up the interest of their more apathetic colleagues. Moreover, he was laying his emphasis less on what he described as nuclear or thermo-nuclear holocaust than on natural disasters—floods, fires, explosions, tornadoes and the like—of which there seems to be no dearth in the United States. Experience there has shown the great advantage enjoyed in the face of such disasters by communities with adequate medical and hospital disaster plans, of which there are a number in existence, and to that extent practical provision exists to deal with the consequences of a nuclear attack, should one come. In other words, a rational and responsible approach to the challenge of national disaster, nuclear or otherwise, is being made by the medical profession in North America—for Canada also has not neglected the matter.

It would be difficult to say the same of the position in Australia, and no superficial comments about "refusal to panic" are likely to justify this inactivity. For this reason it seems desirable, as a basis for thought and to counter the cynical attitude sometimes taken, to set out some of the positive aspects of plans which have been devised to meet major disasters, and which are in part already being translated into practice.[1] It is customary to think in terms of three zones relative to a nuclear attack (they can also be applied to a national disaster): the target zone, the mutual aid zone and the reception zone. A target zone is one which, because of its development and characteristics, is likely to be subject to enemy attack; it may be an industrial area, part of a city or even a whole city, but it is not difficult to cover in a short list the potential target zones in Australia. Although the term is not entirely satisfactory, other less likely areas are classed as non-target zones. A mutual aid zone is organized to provide assistance to the target zone; it is commonly thought of as surrounding or being contiguous to a target zone, but one can well envisage two potential target zones such as Sydney and Melbourne having alternative plants as mutual aid zones, especially with the help of air transport. A reception zone comprises habitable areas which generally lie beyond mutual aid zones; these are organized primarily to receive evacuees and persons who are homeless or injured. Rigidity in planning on this basis is of course unwise, as target zones cannot be foretold with certainty, but a flexible plan is envisaged, based on local rather than central authority, which fits the Australian scene. The following principles have been enumerated as the basis of the over-all organization: (i) the use of existing agencies, governmental and non-governmental; (ii) the supplementing of these agencies by special civil defence services; (iii) the sharing of responsibility between the several levels of government; (iv) the acceptance of each and every individual citizen of responsibility for his own self-preservation.

Three existing agencies are regarded as of special importance: the police service, the fire service and the health services. Only the third of these is our business, but their vital importance to the whole plan is obvious. On the satisfactory organization of the resources of the existing health services would depend the prompt and efficient treatment of casualties and the prevention of disease and epidemics in the face of enormous difficulties. The evacuation system for casualties, especially the provision of hospital facilities, is of fundamental importance. For convenience, hospitals in target zones (if any) are classed as transit hospitals, existing hospitals or improvized hospitals on the periphery of a target zone as cushion hospitals, and those remote from target zones as base hospitals. These three types of hospitals are designed to take the impact of the casualties by degrees, insuring that treatment is available at definite points until the casualties are finally discharged from the outer hospitals. The transit hospital is intended to provide advanced first aid and other medical attention of a similar nature. It is naturally an uncertain quantity, as all existing hospitals within a target zone may be destroyed or rendered useless; something can perhaps be improvized or brought from outside. From the transit hospital casualties are discharged as quickly as possible or transported by ambulance to the cushion hospital, which is designed for more advanced medical attention, resuscita-

[1] *J. Amer. med. Ass.*, 1959, 169: 380 (January 24).

[1] Acknowledgement should be made at this point to the excellent instruction and material provided by the Commonwealth of Australia Civil Defence School, Macedon, Victoria, on which we have drawn freely.

tion, emergency surgery and discharge or transfer, again as quickly as possible. The base hospital is used for advanced or specialist medical treatment, recuperation and discharge of the patient when cured. It is suggested that mobile first-aid groups should be based on cushion hospitals and moved forward as close to the scene of damage as possible. The main strength of these units is a large number of civil defence volunteers grouped around a nucleus of doctors and nurses. In non-target zones the health services, in addition to planning for the problem of receiving casualties, must consider the possibility of sending medical assistance teams or mobile first-aid units to stricken areas. In addition to these essentially medical and hospital plans, there is envisaged a large casualty organization, essentially part of the civil defence organization proper, and with it the medical and hospital organization will need to be closely coordinated, as also it will need to be with the rescue and welfare sections, the warden section and the headquarters section planned for each local area.

Further details of these plans would be out of place here, but it should be realized that much sober thought has already gone into them. It seems clear that a good deal that is worth while could be done even in the face of great devastation. Surely it is desirable that the medical profession should be thinking about these things, preparing to take its place in an organized fashion if the need arises, whether in war or in the face of some other major national disaster. Again and again it is being demonstrated that doctors need to be in charge of medical services if the highest medical effectiveness is to be achieved; they must then be prepared to accept their full part in civil defence and to work and plan in advance. We all hope that, so far as war and atomic attack are concerned, all such working and planning will prove to have been unnecessary, but it would be very unwise to assume this, or to give way to defeatism, or to leave the responsibility to someone else. The matter is well summed up by Gundersen:

> I believe that every physician has a responsibility to prepare himself and to participate in disaster planning in his community. Nurses, paramedical personnel, hospital clerical personnel, ambulance drivers, rescue workers and others will look to the physician for guidance in the performance of duties in the disaster situation. It is the physician who must coordinate the activity of these persons. The physician must weld them into an efficiently functioning medical team. This means, of course, that the physician must enlarge the scope of his thinking and responsibility. He can no longer confine himself to the narrow sphere of his own professional problems. He must furnish guidance to health and medical and ancillary personnel that will assure optimum participation and results.
>
> And again we come to the question: how can this best be done? I say it will be done when the physician recognizes his responsibility.

This may seem a premature injunction in this country. Perhaps it is, at least in some States, where we have relatively little that is organized into which the doctor may immediately enter. Nevertheless, there is nothing to stop the members of the medical profession, organized or as individuals, from thinking about these things, considering what has already been suggested and planned by those who have studied the problems, and being prepared with a positive plan to present as soon as the official opportunity arises.

Current Comment.

SUBACUTE COMBINED DEGENERATION OF THE SPINAL CORD.

PROFESSOR L. S. P. DAVIDSON, of Edinburgh, is well known for his writings on the megaloblastic anæmias. In his latest contribution, prepared in collaboration with John Richmond,[1] the literature dealing with subacute combined degeneration of the spinal cord is reviewed, with particular reference to the occurrence of this condition in the non-Addisonian megaloblastic anæmias. Richmond and Davidson point out that deficiency of vitamin B_{12} is almost certainly the main factor in the causation of subacute combined degeneration, and that it is well known that neurological changes may appear when anæmia is only moderate in degree, or very rarely in its absence. They state that it is not widely known that well-documented cases of subacute combined degeneration have been described not only in association with pernicious anæmia, but also in all other disorders which can be shown to cause vitamin-B_{12} deficiency. They proceed to make a critical review of the literature dealing with the occurrence of subacute combined degeneration in such conditions.

Vitamin-B_{12} deficiency due to dietary defects is first considered. The megaloblastic anæmias of the tropics associated with dietary deficiencies are mainly caused by deficiency of folic acid, and subacute combined degeneration is apparently unknown in this association. However, one well authenticated case is mentioned in which the patient, an adolescent male, had lived for many years on a strict vegetarian diet, eventually developing the clinical signs of subacute combined degeneration, though his gastric mucosa was normal, and his capacity to absorb vitamin B_{12} was unimpaired. He responded promptly to vitamin-B_{12} therapy. The next group of cases considered is those in which vitamin-B_{12} deficiency is the result of the loss of intrinsic factor, due to the loss of gastric mucosa, as a consequence of either surgical operation or disease. The occurrence of subacute combined degeneration in such cases has been well established. Finally there are those cases in which vitamin-B_{12} deficiency is caused by malabsorption due to factors affecting the intestine. These include cases in which vitamin-B_{12} is diverted by bacteria flourishing in stagnant loops of bowel after surgical operation; cases in which a large part of the bowel has been short-circuited; cases of gross infiltration of the bowel wall by tuberculosis or tumour; and cases of failure of absorption in conditions such as idiopathic steatorrhœa. This group is very critically examined, and only ten cases are accepted in which it is considered that the diagnosis of subacute combined degeneration was adequately established. In five of these the condition was due to structural causes, and in five to idiopathic steatorrhœa. However, in only one was histological confirmation obtained. Richmond and Davidson then describe two cases of their own in which megaloblastic anæmia was caused by intestinal disease (in one case tuberculous enteritis, in the other idiopathic steatorrhœa), in both cases associated with spinal cord degeneration which was subsequently confirmed at autopsy.

In their discussion, Richmond and Davidson remark that the mechanism by which lack of vitamin B_{12} gives rise to subacute combined degeneration of the spinal cord has not been established, and that at least three interesting observations have still to be explained. The first of these is that there is little correlation between the effect of vitamin-B_{12} deficiency on the blood and its effects on the nervous system. It is believed that vitamin B_{12} is essential for nucleic-acid synthesis, and this would explain why the actively proliferating blood-forming tissues are normally affected before the nervous system, but it does not explain why the reverse may occasionally happen. The second observation is that,

[1] *Quart. J. Med.*, 1958, 27: 517 (October).

in the days before liver therapy, when people were dying of pernicious anæmia, the incidence of subacute combined degeneration was apparently not appreciably higher than it is now. The explanation of this observation is possibly that, in the old days, most patients died of their anæmia before spinal cord degeneration could develop. After the discovery of the effectiveness of liver therapy, patients no longer died of their anæmia, but many were inadequately treated. The third observation is that folic-acid deficiency gives rise to a form of megaloblastic anæmia indistinguishable from that caused by vitamin-B_{12} deficiency, but these patients do not develop subacute combined degeneration. The administration of folic acid will often correct Addisonian anæmia, but it has no effect on the neurological symptoms and may even aggravate them.

Our knowledge of the non-Addisonian megaloblastic anæmia has been mostly acquired in recent years, and Richmond and Davidson point out that these conditions are rare compared with true pernicious anæmia. They state that from a study of 1000 cases reported in Edinburgh, it may be said that, in Britain, if a patient has macrocytic anæmia, it is seven to one that it is Addisonian pernicious anæmia. Of the remaining cases in their series, the majority were macrocytic anæmias of pregnancy, which are due to a deficiency of folic acid; in only 49 cases was the anæmia associated with disease of the intestinal tract. Less than 10% of patients with Addisonian pernicious anæmia suffer from subacute combined degeneration, and its incidence in other megaloblastic anæmias due to vitamin-B_{12} deficiency is very much less. Richmond and Davidson stress the importance of establishing whether megaloblastic anæmia in any particular case is due to deficiency of folic acid or of vitamin B_{12}, as the former will, in most cases, correct the anæmia; but if the basic deficiency is of vitamin B_{12}, the patient will ultimately develop disease of the spinal cord if treated with folic acid.

Finally, Richmond and Davidson discuss the use of the term "subacute combined degeneration of the cord". They state that this name has been criticized by many authors, and suggest that it should be discarded for four reasons: (i) the disease usually begins insidiously, not subacutely; (ii) the combination of lesions of both lateral and posterior tracts is frequently absent; (iii) the name is cumbersome; (iv) the name takes no account of the fact that peripheral neuritis develops first, and that in a small proportion of cases lesions in the cord are associated with mental changes due to brain damage. Accordingly they suggest that the term "subacute combined degeneration of the spinal cord" should be replaced by "vitamin-B_{12} neuropathy". They justify the use of the term neuropathy in a comprehensive sense by reference to the definition of the word given in *The Oxford English Dictionary* and in standard medical dictionaries.

GLASGOW'S X-RAY CAMPAIGN AGAINST TUBERCULOSIS.

A "BLITZ" chest X-ray campaign was held in Glasgow in 1957[1] as the inauguration of a two-year plan against tuberculosis in Scotland. Lasting for five weeks it was a triumph of preliminary organization and masterful planning carried out by the health authorities with the cooperation of the practising profession. Glasgow, with a population then of 1,085,500, equivalent to one-fifth of the total Scottish population, was the logical city for the commencement of such a campaign, as it had an unenviable record for tuberculous infection and still had a notification rate of 160 per 100,000 and a mortality rate of 35 per 100,000 in 1956. This was due no doubt to the particularly crowded living conditions of its inhabitants (the majority are housed in four-storey tenements with eight to sixteen flats each, and 48% of the dwellings consist of one or two rooms only), which had not helped it keep pace with the general post-war decline of the disease.

Many months were spent in preliminary organization for this colossal voluntary effort required of a population of a large city, and a maximum of carefully prepared and timed publicity in all media was used. As an added inducement, valuable prizes, such as television sets, were distributed by lottery during the actual survey, with a special prize of a car at the close of the campaign. Thirty-six miniature X-ray units drawn from all over England and Scotland were employed in six sectors of the city, with four static, one mobile and one recall unit per sector, and an average of 628 to 1396 daily attendances was achieved at different units as against a planned 350 to 500. The aim was to examine 400,000, or at least 50% of the adult population, in the five-weeks period. Actually, a total of 714,915 persons were examined, of whom 622,349 were over the age of 15 years, 149,136 under the age of 21 years, and 19,446 under the age of 15 years. The recall rate was 4·3% for large films.

A total of 2842 (0·4% of examinees) sufferers from active pulmonary tuberculosis were detected, of whom 974 were admitted to hospital; and a further 5379 (0·75% of examinees) were found to have pulmonary tuberculosis requiring observation. Of these, only 277 and 391 respectively were previously known. The incidence of active tuberculosis was almost double that expected, but, as anticipated, almost twice as much disease was found in men as in women. The prevalence in men increased over the age of 45 years, with a still increasing peak over the age of 60 years; whereas in women most cases were found in the 15 to 35 years group, with a rapid decrease in prevalence after the age of 45 years. It would appear that 77% of those considered to have radiologically active lesions were examined bacteriologically; of these the diagnosis was confirmed by the demonstration of *Mycobacterium tuberculosis* in only 22% at the time. Although it is not exactly stated in the report, it is presumed that this examination was of sputum smears or laryngeal swabs only, as no detail is given of culture or other methods. No doubt later investigation produced further confirmation of active cases amongst those requiring follow-up observation. A total of 1073 (0·15%) were found to have cardiac abnormalities, while 597 (0·08%) had bronchiectasis; 347 (0·05%) were found to have cancer of the lung, of whom 273 were males (0·09% of male examinees).

The total cost of the campaign (in Australian currency), £142,836, including publicity, salaries and running costs, was more than justified from the results obtained; it was equivalent to 4s. per person examined (of which 7½d. was spent on publicity), £8 0s. 5d. per significant abnormality, £20 10s. 5d. "per new active and observation case of tuberculosis" found, and £55 13s. 9d. per new active case of tuberculosis found. Only 76% of Glasgow residents (excluding non-residents) attended—78% of the women and 74% of the men. This fact is significant, especially as the lowest response was amongst the elderly; it suggests that, for every four persons found to have active pulmonary tuberculosis, there remained at least one further undiscovered infectious sufferer. Technically, a high standard of work seems to have been achieved, although one must accept a further percentage of error due to the use of 35 mm. lens camera units (this is presumed, as no actual reference is made to type of unit employed), to the reading of miniature films by individual viewers and to the unavoidable pace of the survey and follow-up.

A repeat survey would appear more than justified (say, after a three-year interval), and there is every reason to suggest that this should be carried out compulsorily if there is a genuine wish of the community of Glasgow to rid itself of its tuberculosis problem. In the present instance, had there not been such a problem to be tackled and brought to the public eye, one wonders if a better result might not have been achieved by working from the existing five chest clinics in the city with their more efficient 70 and 100 mm. mirror camera units on the "hasten slowly" principle.

[1] "Glasgow's X-Ray Campaign Against Tuberculosis: 11th March-12th April, 1957." Glasgow: Glasgow Corporation Printing and Stationery Department. 10" × 7½", pp. 118, with many illustrations. Price not stated.

Abstracts from Medical Literature.

SURGERY.

Survival after Resection of Recurrent Carcinoma.

S. W. MOORE (*Surg. Gynec. Obstet.*, December, 1958) reports the survival of a patient for five years after resection of the abdominal aorta for recurrent carcinoma. In January, 1949, a woman, aged 56 years, had an anterior resection of the sigmoid colon for adenocarcinoma with perforation. In May, 1952, she entered hospital because of a mass in the left side of the abdomen. She had, in addition, a hernia in the scar of an appendicectomy performed at the time of the resection of the sigmoid colon, a substernal goitre and cholelithiasis. At operation a large tumour mass 10 cm. by 6 cm. by 4 cm. was found invading the abdominal aorta. The mass was removed, together with the aorta, both common iliac arteries and the left ureter, and a homograft of the abdominal aorta with bifurcation was inserted by end-to-end anastomosis. The specimen showed recurrent carcinoma eroding the aorta, but not yet penetrating its lumen. The patient's recovery was uneventful, and 25 days later the sigmoid colon and left kidney were removed. Four months later a cholecystectomy was performed, and two years later a bilateral subtotal thyroid lobectomy. In November, 1956, because of pain in the hernia in the appendicectomy scar, this was repaired, and exploration revealed that both common iliac arteries were in good condition and that there was no evidence of tumour in the pelvis, mesentery, liver or lymph nodes. Now, five and a half years after resection of the secondary growth, the patient is well, with no evidence of cancer, no loss of weight, and normal pulsations in both femoral and dorsalis pedis vessels.

Breast Cancer in Younger Women.

N. TREVES AND A. I. HOLLER (*Surg. Gynec. Obstet.*, September, 1958) have analysed the records of 549 patients under the age of 35 years, all of whom had histologically confirmed breast cancer. Of these patients, 82% were married and 66% had been pregnant at least once. The incidence of surgical gynæcological disorders appeared to be relatively high for the age group concerned. In only 1% was the tumour discovered during routine physical examination. Nipple discharge was present in 5·5%, bloody discharge being twice as frequent as serous discharge. Bloody discharge usually indicated an infiltrating duct carcinoma with no papillary component. Infiltrating duct carcinoma accounted for 86·6% of the pathological diagnoses. The overall five-year cure rate was 30·7%. When patients with inoperable tumours, patients who died from other causes, patients who could not be traced, and patients who refused treatment were excluded, the five-year cure rate was 40·6%. These data indicate that breast cancer in young women has a prognosis similar to that in older women. When axillary node involvement was present, the cure rate was lower than in older women. The location of the tumour in the breast had little or no influence on the rate of clinical cure. The prognosis was better for those patients with the less common types of breast cancer, e.g., medullary, comedo and colloid carcinoma, than for those with infiltrating duct carcinoma. The higher the level of axillary node involvement, the poorer was the prognosis, but involvement of level three, however, should not be used as a criterion of operability, since 16% of these patients were free of recurrent cancer five years or more after radical mastectomy. The prognosis in cases of pregnancy occurring simultaneously with breast cancer was extremely poor, but the authors advise that pregnancy of itself should not be regarded as a contraindication to operation. Pregnancy occurring subsequent to operation appeared to have little influence on prognosis. Definite conclusions concerning the management of pregnancy for women with concurrent breast cancer could not be formulated. Patients who delayed longer than six months before surgical treatment was undertaken showed a higher incidence of axillary node metastases and a lower clinical cure rate than patients who sought medical care earlier. Post-operative X-ray therapy, regardless of axillary node involvement, had no influence on the clinical cure rates. When the axillary nodes were not involved, prophylactic castration did not affect the clinical cure rates; but when axillary nodes were involved, the five-year clinical cure rate was 8·3% higher in patients who had undergone castration. Tumour size alone was of significant prognostic import whether glands were involved or not. The authors suggest that certain criteria of operability should be modified. Early diagnosis and prompt radical surgery offer the best chance for survival. They conclude that the previous impression of a poor prognosis for breast cancer in young women who are not concurrently pregnant must be supplanted by a more hopeful outlook.

Internal Mammary Lymph Node Excision in Breast Cancer.

J. A. URBAN (*Cancer*, January-February, 1959) has performed radical mastectomy in continuity with *en bloc* resection of the internal mammary lymph node chain in 300 patients. This procedure was applied mainly in cases in which the lesions were central or medial, since cancers arising in those sites metastasize earlier and more frequently to the internal mammary glands than do lesions in the lateral portion of the breast. All nodes were clear in 44·3% of patients, 48% had malignant deposits in axillary nodes, and 35·4% showed internal mammary lymph node involvement. Twenty-three of the 300 patients showed only internal mammary lymph node involvement. In this series 75 consecutive patients with primary operable breast cancer had been treated more than five years previously. The five-year survival rate was 66%, and the five-year survival rate clinically free of disease was 62·6%. Although the five-year survival rate was not altered, the five-year survival rate clinically free of disease was 14% greater than the figure obtained for patients treated by radical mastectomy and post-operative radiotherapy.

Results of Hypophysectomy for Metastatic Breast Cancer.

O. H. PEARSON AND B. S. RAY (*Cancer*, January-February, 1959) have analysed the results obtained in 218 patients with metastatic mammary cancer treated by hypophysectomy. There were 109 patients who had a minimum follow-up for 17 months. Approximately 50% had objective remissions, and 35% had remissions lasting six months or longer. In the latter group the average period of remission was more than 15 months and the average survival time was more than 21 months. A favourable response to oophorectomy indicated that beneficial effects could be expected after hypophysectomy. The authors found that hypophysectomy yielded better results than adrenalectomy. After hypophysectomy, œstrogens failed to induce exacerbations, but human growth hormone seemed to stimulate tumour growth in two out of five patients receiving it. The authors regard hypophysectomy as a worth-while palliative procedure for metastatic breast cancer when adequate facilities are available to carry it out.

A Modification of the Sengstaken-Blakemore Sound.

L. LEGER (*Presse méd.*, November 29, 1958) describes a modification of the Sengstaken-Blakemore balloon sound for the control of hæmorrhage from œsophageal varices. In the Sengstaken-Blakemore sound, between the two small balloons (one tube-shaped, for the œsophagus, and one spherical, for the stomach), there is an intermediate zone corresponding to the cardia. This results in a compression deficiency, which may explain some failures in hæmostasis when this instrument is used. The author has modified the sound by eliminating the hiatus between the two balloons and by making the balloons partly solid. The method of use is the same as for the other sound. The same precaution of intermittent deflation should be taken, to avoid the occurrence of necrosis of the mucosa.

Failure and Replacement of Abdominal Aortic Grafts.

M. R. GASPAR (*Amer. J. Surg.*, August, 1958) reports five cases of failure of aortic grafts and successful replacements in four of these. He points out that it might be supposed that, in most instances, failure of an aortic graft would spell doom for the patient, but that these cases show that this is not necessarily so. Residual disease is an important cause of failure of abdomical aortic grafts when either homografts or synthetic grafts are used. It is obvious that all of an aneurysm should be resected. Residual arteriosclerosis is more easily overlooked, but must be removed or by-passed because it fosters occlusion of the graft. Residual disease was the cause of failure in three of these five cases. Imperfect fashioning of grafts is another cause of failure. A poorly fashioned cloth synthetic graft was instrumental in the failure in one of the cases in this series. Imperfect

anastomoses also contribute to thrombosis within grafts. The author states that freeze-dried homografts appear to be unreliable. They must be prepared and selected carefully. In two cases in this series the homograft ruptured, one at operation and one on the fourth post-operative day. The author has seen two other ruptures in freeze-dried human aortic grafts and two in freeze-dried dog homografts. When abdominal aortic grafts fail, the entire graft should be replaced. The author concludes that the success of replacement grafts in four out of five cases indicates that an attempt should always be made to replace an abdominal aortic graft which fails.

Lymphadenopathy Induced by Anticonvulsant Drugs.

S. L. SALTZSTEIN AND L. V. ACKERMAN (*Cancer*, January-February, 1959) have described a clinical and pathological syndrome closely mimicking malignant lymphoma in patients treated with hydantoin and hydantoin-like drugs. Clinically there are lymphadenopathy, fever, exanthemata, eosinophilia and occasionally, hepato-splenomegaly. Histologically there are obliteration of normal architecture of lymph nodes, hyperplasia of reticulum cells, infiltration with eosinophil leucocytes, focal necroses and phagocytosis. Cessation of therapy results in remission of the clinical and pathological findings.

A Slow Injection Method of Aorto-Arteriography.

A. J. BREWER AND R. H. ELLIS (*Surg. Gynec. Obstet.*, September, 1958) describe their method of aorto-arteriography which is in use at the Mayo Clinic and which they believe to be simpler and safer than most other techniques used. Almost always it is possible to demonstrate the arteries of the lower extremities to a level below the knees. A six-inch, 18 gauge needle is first inserted into the aorta at the level of the twelfth thoracic vertebra, and 12 to 15 ml. of a 70% of sodium "Urokon" is rapidly injected (one to two seconds). An X-ray film is taken at the end of the injection. The first X-ray film gives a good idea of the condition of the abdominal aorta and its visceral branches, and determines where a second needle should be placed in order to enter the abdominal aorta well below the renal arteries. Ten millilitres of sodium "Urokon" are then injected fairly rapidly in the second position, and an X-ray film is taken which gives an excellent representation of the condition of the lower abdominal aorta and of the iliac and upper femoral arteries. After it is seen that the second needle is well placed, the first needle may be removed. A 36 in. by 14 in. cassette is now loaded with two sheets of 14 in. by 17 in. film and positioned beneath the lower limbs from the inguinal region to the middle of the calf or the ankle. A slow injection of 55 or 60 ml. of diluted opaque medium is then given over 15 seconds, which allows time for filling of collateral arteries beyond the obstructed segments. The method does away with complicated methods of changing multiple cassettes and evaluates the circulation in both legs at once, as well as depicting the lower aorta and pelvic branches, and is safe because the injection is made below the renal arteries at an extremely slow rate.

Reconstruction of the Œsophagus.

E. B. MONTENEGRO AND D. E. CUTAIT (*Surgery*, November, 1958), from the University of Sao Paulo (Brazil), report 26 cases in which the transverse colon was used in the construction of a new œsophagus. This operation was performed in 14 cases of atresia of the œsophagus caused by the ingestion of caustic soda, 10 cases of cancer of the œsophagus and two cases of varices of the œsophagus. They discuss the detailed techniques of this operation for these lesions. There were five post-operative deaths in this series. Two were due to peritonitis caused by leakage at the colo-colic anastomosis, one resulted from anoxæmia caused by tension pneumothorax, one resulted from anoxæmia due to post-operative œdema of the trachea, and one was the result of anterior mediastinitis. The main other post-operative complications were injury to the left recurrent laryngeal nerve and œsophago-colic fistula; the former occurred in three patients and the latter in six. However, the fistulæ all healed spontaneously within two or three weeks. Follow-up studies revealed improvement in the general condition of all patients with caustic atresia. They all gained weight, and were extremely pleased with their new condition. Of the eight cancer patients who survived operation, three died from metastases 11, 14 and 15 months after the operation. Of the remaining five patients, one was still alive after almost four years and three had not been followed up. One patient with œsophageal varices survived the operation, and 15 months later felt well and had had no further bleeding. The authors consider that their method of using the transverse colon to replace the œsophagus is of great value for the reestablishment of communication between the cervical œsophagus and the stomach or jejunum.

Primary Carcinoma of the Gall-bladder.

J. L. DONHAUSER (*A.M.A. Arch. Surg.*, December, 1958) analyses 52 cases of primary cancer of the gall-bladder. Calculi were present in 41 cases. There was no definite symptomatology which could be regarded as diagnostic of carcinoma of the gall-bladder, and no laboratory findings were of aid in diagnosing this condition. Pathologically, adenocarcinoma was the predominant finding. Metastases were commonly found in the liver, regional lymph nodes, peritoneum and lungs. Thirty-two of the patients were women. The age group most commonly involved was the decade from 61 to 70 years. The author considers that frozen sections of the gall-bladder should be examined in all cases in which the gall-bladder is hard, thickened or indurated. After reviewing the literature the author considers that cholecystectomy, with or without drainage of the biliary passages, is of no avail in curing the condition, though he notes exceptional cases in which the patient has survived for several years. He recommends that partial or complete lobectomy should be employed if the case presents any promising aspects.

Multiple Cancers in Colon Surgery.

R. A. MCGREGOR AND H. E. BACON (*Surgery*, November, 1958) review a consecutive series of 1788 cases of cancer of the rectum and colon; 162 patients had multiple primary cancers, an incidence of 9·2%. Multiple primary cancers of the large bowel alone were noted in 5·3%. They conclude that multiple primary cancer of the large bowel is not a rare or even an unusual phenomenon, and that any patient with a cancer of the rectum or colon has an increased risk of developing cancer at other sites simultaneously or at different time intervals. They therefore recommend that during operation meticulous exploration of the colon and all abdominal organs should be performed, and that subsequently the patient should be checked at regular intervals both clinically and radiologically, even though he may have survived five, 10 or even 20 years after his first operation.

Injuries to the Head.

K. V. CAMMACK, K. WELBORNE AND G. J. CURRY (*Amer. J. Surg.*, November, 1958) present an evaluation of morbidity and mortality in a group of patients with head injuries. Of the 795 patients with injuries to the head seen in one year at Hurley Hospital, 3·6% had proved intracranial hæmorrhage. Of the patients with intracranial hæmorrhage, 51% died within 48 hours after their accident. Operation within the first 48 hours was of benefit only in a case of epidural hæmorrhage occurring five hours before operation. The patient survived. All patients with subdural hæmorrhage for whom operation was considered necessary within the first 48 hours died. In the group of patients with subdural hæmorrhage, the best survival rate was found in those who survived for 48 hours after their accident, were under 40 years of age, and were operated upon before the seventh day after the injury. All of these patients presented localizing neurological signs which prompted surgical interference. The authors consider that in every patient presenting a progressive deepening of conscious level, with or without the presence of a history of trauma or localizing neurologic signs, a diagnosis of subdural hæmorrhage should be strongly considered. The over-all mortality rate in the 795 cases discussed was 3%.

Billroth II Gastrectomy with a Small Stoma.

J. J. MCCAUGHAN AND R. F. BOWERS (*A.M.A. Arch. Surg.*, December, 1958) consider that the post-gastrectomy symptoms after the Billroth II gastrectomy are a serious problem. They consider that these symptoms are closely related to rapid gastric emptying. They therefore followed up a series of 200 patients subjected to Billroth II gastrectomies; in 100 of these patients a large stoma had been constructed and in 100 a small stoma had been constructed. The authors found a definite reduction in the post-gastrectomy syndrome in the small stoma group as compared with the large stoma group.

British Medical Association.

NEW SOUTH WALES BRANCH: ANNUAL MEETING.

THE annual meeting of the New South Wales Branch of the British Medical Association was held at the Robert H. Todd Assembly Hall, British Medical Association House, 135 Macquarie Street, Sydney, on March 19, 1959, SIR WILLIAM MORROW, the President, in the chair.

ANNUAL REPORT OF THE COUNCIL.

The annual report of the Council was taken as read and received on the motion of Dr. T. Y. Nelson, seconded by Dr. G. L. Howe. The report was commented on by Dr. T. Y. Nelson and Dr. D. A. Brown. The report was adopted on the motion of Dr. T. Y. Nelson, seconded by Dr. G. L. Howe.

The annual report is as follows.

THE Council presents the following report on the work of the Branch for the period March 27 to December 31, 1958. It has been customary in the past for the report to cover the period between the annual meetings, but during the past year, the Council decided that the annual report should in future agree in period with the annual financial statements, namely ending December 31, and also decided that copies of the report would be supplied to members before the annual meeting.

Membership.

The membership of the Branch at December 31, 1958, was 4,186, as against 4,098 at March 27, 1958. The additions included 109 elections, re-elections and resumptions, and 87 removals into the area of the Branch; while the losses have included 12 by resignation, 62 removals out of the area of the Branch and 34 by death. The losses by death were as follows: Dr. N. M. D. Fox, Dr. T. M. Furber, Dr. J. L. Struan-Marshall, Dr. V. M. Rich, Croix de Guerre, Dr. L. G. Tait, Dr. K. G. Hearne, Dr. M. Irene C. Bray, Dr. A. V. Smith, Dr. G. A. Lawrance, M.C., Dr. H. E. Hargreaves, Dr. C. A. Lawson, Dr. A. W. Dean, Dr. K. J. Ellis, Dr. D. W. Hawke, Dr. F. M. G. Punch, Dr. J. A. Watt, Dr. R. D. Heggaton, Dr. H. A. Ryan, Dr. S. L. Cameron, Dr. K. H. Grieve, M.C., Dr. F. O. Stokes, Dr. E. R. Figtree, Dr. J. V. Landor, Dr. E. V. Peipman, Dr. E. M. Sheppard, E.D., Dr. S. G. Iceton, Dr. A. H. Widdup, Dr. E. N. Kaufmann, Dr. I. Aird, Médaille des Epidemiés, Dr. W. Begg, Dr. C. P. Jackson, Dr. J. Coen, Dr. S. S. Gardiner, Dr. R. W. Fay.

Meetings.

Ten ordinary general meetings of the Branch (including the annual general meeting), two extraordinary general meetings of the branch and nine clinical meetings were held. The average attendance was 71.

Seven ordinary general meetings were held in conjunction with meetings of the special groups, viz.: April 24, with the Section of Neurology, Psychiatry and Neurosurgery; May 29, with the Section of Pædiatrics, the Section of Allergy and the Section of Neurology, Psychiatry and Neuro-Surgery. One of the papers at this meeting was presented by a medical officer of the asthma clinic conducted by the School Medical Service of the Department of Public Health; June 26, with the Section of Surgery, the Orthopædic Group (British Medical Association) and the Section of Anæsthesia; July 31, with the Section of Obstetrics and Gynæcology, the Section of Anæsthesia and the Section of Pædiatrics; September 18, with the Section of Medicine and the Section of Pædiatrics; November 27, with the Orthopædic Group (British Medical Association) and the Section of Pathology; December 11, with the Section of Medicine, the Section of Surgery and the Section of Neurology, Psychiatry and Neurosurgery. At the meeting held on July 31, a sound film entitled "Kuru, a Clinical Fim", was presented through the courtesy of the Department of Territories. The ordinary meeting held on August 28 was in conjunction with a meeting of the Post-Graduate Committee in Medicine, the University of Sydney, when a paper was presented by Professor Charles Illingworth, C.B.E., M.D., F.R.C.S., Professor of Surgery, University of Glasgow. Twenty-one papers were presented at these meetings.

The seventh ordinary general meeting held by the Branch took place on Saturday, October 18, at Grafton. 27 members being present. Two papers were read. In addition to the scientific programme, the North Eastern Medical Association entertained the visitors at a dinner. The Council extends its grateful thanks to the North Eastern Medical Association for its assistance in the organization of the meeting.

An extraordinary general meeting was held on November 13, during the week of the Pan-Pacific Rehabilitation Conference, when papers were presented by Squadron-Leader C. B. Wynn-Parry, M.B.E., Director of Air Force Rehabilitation Centre, Chessington, England, and Professor Howard Rusk, Director of the Institute of Physical Medicine and Rehabilitation, Bellevue Medical Center, New York University, New York. Ninety-five members were present at this meeting, which was held in conjunction with a meeting of the Australian Association of Physical Medicine and Rehabilitation and a meeting of the Australian Rheumatic Association.

At the extraordinary general meeting on October 14, the By-Laws (By-Law 4. Annual Subscription.) were amended.

The clinical meetings were held at the Rachel Forster Hospital for Women and Children, Royal North Shore Hospital, Royal Prince Alfred Hospital, Royal Alexandra Hospital for Children, Saint Vincent's Hospital, Sydney Hospital, The Psychiatric Clinic, Broughton Hall, Royal Hospital for Women and The Saint George Hospital.

An invitation was extended to the fifth and sixth year medical students of the University of Sydney to attend ordinary general meetings and to sixth year medical students to attend clinical meetings of the Branch.

Representatives.

The Branch was represented as follows:

1. Council of the British Medical Association: Professor B. W. Windeyer.
2. New South Wales State Cancer Council: Sir Benjamin T. Edye, C.B.E.
3. Department of Social Services Standing Departmental Rehabilitation Committee: Dr. Naomi Wing.
4. Post-Graduate Committee in Medicine, The University of Sydney: Dr. E. F. Thomson, Dr. K. S. Jones and Dr. S. R. Dawes.
5. Board of Optometrical Registration: Dr. J. Davis.
6. Fluoridation of Public Water Supplies Advisory Committee: Dr. D. G. Hamilton.
7. Annual Representative Meeting, British Medical Association, Birmingham, July, 1958: Dr. K. C. T. Rawle, Dr. A. A. Moon and Dr. R. C. Geeves.
8. The Ophthalmic Association Ltd.: Dr. E. V. Waddy Pockley.
9. New South Wales Institute of Dietitians: Dr. F. H. Read.
10. New South Wales Bush Nursing Association: Dr. L. W. Wing.
11. Florence Nightingale Memorial Committee of Australia: Dr. Mary Puckey.
12. Old People's Welfare Council of New South Wales: Dr. G. L. Howe.
13. New South Wales Institute of Hospital Almoners: Dr. R. A. R. Green.
14. New South Wales Association for Mental Health: Dr. A. T. Edwards.
15. Royal Flying Doctor Service of Australia, New South Wales Section: Dr. George Bell, O.B.E.
16. New South Wales College of Nursing: Dr. E. F. Thomson.
17. Hospitals Contribution Fund of New South Wales: Dr. Hugh Hunter.
18. City of Sydney Youth Welfare Advisory Committee: Dr. G. L. Howe.
19. Committee for the Placement of Resident Medical Officers: Dr. T. Y. Nelson.
20. Federal Council of the British Medical Association in Australia: Dr. A. J. Murray, O.B.E., Dr. W. F. Simmons, Dr. R. H. Macdonald, O.B.E., and Dr. E. F. Thomson.
21. Medical Officers' Relief Fund (Federal). Local Committee of Management for New South Wales: Dr. A. M. McIntosh, Dr. A. J. Murray, O.B.E., and Dr. R. H. Macdonald, O.B.E.
22. Medical Finance Limited, Board of Directors: Dr. E. A. Tivey, Dr. A. C. Thomas, Dr. George Bell, O.B.E., and Dr. G. C. Halliday.
23. Australasian Medical Publishing Co. Ltd.: Dr. W. F. Simmons, Dr. W. L. Calov and Professor L. F. Dods, M.V.O.
24. New South Wales Medical Board: Dr. J. R. Ryan.
25. Federal Medical War Relief Fund, Local Committee of Management: Dr. R. H. Macdonald, O.B.E., Dr. A. C. Thomas and Dr. A. J. Murray, O.B.E.

26. National Association for the Prevention of Tuberculosis in Australia (New South Wales Division): Dr. W. Cotter B. Harvey.
27. Medico-Pharmaceutical Liaison Committee: Dr. D. G. Hamilton, Dr. G. L. Howe, Dr. Mary C. Puckey and Dr. W. F. Simmons.
28. Department of Public Health, Poisons Advisory Committee: Sir William Morrow, D.S.O.
29. Department of Motor Transport (Committee to consider the question of the adoption of chemical tests of body fluids to determine whether a driver is under the influence of alcohol): Dr. F. S. Hansman.
30. National Health Service. Pensioner Medical Service Committee of Inquiry: Dr. M. S. Alexander, O.B.E., Dr. B. A. Cook, Sir William Morrow, D.S.O., and Dr. A. C. Thomas.
31. State Medical Advisory Committee: Dr. E. F. Thomson. Alternate Representative: Dr. J. G. Hunter.
32. New South Wales Association of Medical Records Librarians Advisory Committee: Dr. T. Y. Nelson.
33. State Medical Planning Committee: Dr. M. S. Alexander, O.B.E.
34. Medical Appointments Advisory Committee: Dr. T. Y. Nelson.
35. New South Wales Examining Council in Medical Technology (Hospitals Commission of New South Wales): Dr. E. F. Thomson and Dr. F. S. Hansman.
36. St. John Ambulance Association: Sir William Morrow, D.S.O.
37. Special Departmental Committee for Investigation of Maternal Deaths: Dr. E. A. Tivey. Alternate Representative: Dr. M. H. Elliot-Smith.
38. Coordinating Council of the Physically Handicapped: Dr. R. A. R. Green.
39. Road Safety Council of New South Wales: Sir William Morrow, D.S.O.
40. Standards Association of Australia: (i) Safety Standards Coordinating Committee, Dr. W. E. George; (ii) Institutional Supplies Committee, Dr. S. W. G. Ratcliff; (iii) Sectional Committee on Interior Illumination of Buildings, Dr. J. Davis; (iv) Committee of Standards of Laboratory Glassware and Volumetric Glassware, Dr. F. S. Hansman; (v) New South Wales Committee on Protective Occupational Clothing, Dr. J. H. Blakemore; (vi) Paint and Varnish Sub-Committee No. 8, Dr. J. H. Blakemore; (vii) New South Wales Committee on Eye Protection, Dr. J. Davis; (viii) Sectional Committee on Measuring Cups and Spoons, Dr. W. W. Ingram; (ix) New South Wales Committee on Industrial Respiratory Protective Devices, Dr. W. E. George.

Council.

(a) The attendance of members of the Council and of the standing committees was as set out in the accompanying table.

(b) The representatives of the local associations of members appointed on the invitation of the Council to attend the regular quarterly meetings of the Council were as follows: Dr. A. W. Raymond (Blue Mountains), Dr. M. M. Ramsden (Border), Dr. W. A. Hillman (Brisbane Water District), Dr. L. Abramovich (Canterbury-Bankstown), Dr. M. V. Mutton (Central Southern), Dr. G. N. M. Aitkens (Central Western), Dr. H. E. Masters (Eastern District), Dr. G. R. Faithfull (Eastern Suburbs), Dr. G. P. Charles (Far South Coast and Tablelands), Dr. D. L. Peate (Hunter Valley), Dr. K. W. Alexander (Illawarra Suburbs), Dr. P. H. Doyle (Kuring-Gai District), Dr. P. K. Bell (Nepean-Hawkesbury), Dr. J. H. Priestley (Northern District), Dr. J. L. Roberts (North Eastern), Dr. H. G. Rich (South Eastern), Dr. A. T. Woods (Southern District), Dr. Margery Scott-Young (Warringah District), Dr. S. R. Dawes (Western), Dr. S. A. Bonnette (Western Suburbs).

Library.

Dr. E. F. Thomson was appointed to the position of Honorary Librarian.

Visitors to the Library	6,358
Books lent to members	1,189
Journals lent to members	4,429
Books added to the Library	199
Journals added to the Library	13

As the above figures cover a period of ten (10) months only a careful check was made to ascertain how they compared with previous years, and it is gratifying to record an increase in the use of the facilities and resources of the Library.

The photocopying service continues to prove a necessary adjunct to the Library facilities available to members. With respect to material not available in Australia the Council of the Association desires to record its appreciation of the kind cooperation rendered by the Royal Society of Medicine and the National Library of Medicine in furnishing photocopies of such material upon request.

Details of the amount expended on the Library for the year ended December 31, 1958, are as follows:

	£	s.	d.
Salaries	4,576	17	3
Subscriptions to Journals	1,271	16	11
Books	545	15	8
Binding	588	9	0
	£6,982	18	10

Donations have been received from various sources and it is encouraging to realize that members are offering material to the Library before discarding it, as donations of any kind are always welcome. If found to duplicate material already held in the Branch Library, the books and/or journals are offered to other medical and allied libraries throughout the Commonwealth.

It is the wish of the Council to acknowledge with grateful thanks donations from the following: The Editor, THE MEDICAL JOURNAL OF AUSTRALIA; Abbott Laboratories; American College of Surgeons; Dr. D. B. Arnott; Dr. S. G. Barr; British Medical Association, London; Dr. Grace J. Browne; Professor F. J. Browne; Dr. Howard Bullock; Dr. D. G. Carruthers; Dr. J. F. C. C. Cobley; College of General Practitioners; Commonwealth of Australia; C.S.I.R.O., Division of Electrotechnology; Dr. H. J. Elzenberg; French Consulate on behalf of the French Government; Dr. W. Cotter Harvey; Dr. J. G. Hunter; Japan External Trade Recovery Organization; King Edward Hospital for Women, Subiaco, Western Australia; Dr. J. Damgaard Lange; Dr. F. Lesser; Dr. S. S. Marshall; Medical and Chirurgical Faculty of the State of Maryland Library; Ejnar Munksgaard—Publishers (Copenhagen); National Nephrosis Foundation Incorporated; New South Wales Department of Public Health; New South Wales State Cancer Council; Dr. Rowan Nicks; Pfizer Proprietary Limited; Post-Graduate Committee in Medicine, University of Sydney; Queensland Institute of Medical Research; Richmond Lions Club, Victoria; Dr. Howard Rusk (U.S.A.); Dr. K. E. Shellshear; Dr. R. J. Silverton; Dr. K. W. Starr; United States Information Library; University of Melbourne; University of New South Wales; Vanderbilt University School of Medicine Library, Tennessee; Dr. A. L. Webb; Dr. M. Naomi Wing; Dr. William Wood; College of Radiologists (Australia and New Zealand); Dermatological Association of Australia (B.M.A.); Oto-Laryngological Society of Australia, New South Wales Section (B.M.A.); Section of Medicine; Section of Obstetrics and Gynæcology.

Affiliated Local Associations of Members.

Blue Mountains (affiliated 1944): *Chairman*, Dr. K. Kennedy; *Honorary Secretary*, Dr. N. Larkins. Membership 28.

Border (affiliated 1908): *Chairman*, Dr. A. B. Hogan; *Honorary Secretary*, Dr. R. S. Hayter. Membership 24. Six meetings were held.

Brisbane Water District (affiliated 1948): *Chairman*, Dr. Z. J. Caska; *Honorary Secretary*, Dr. J. K. Fullagar. Membership 25. Four meetings were held.

Broken Hill (affiliated 1942); *Honorary Secretary*, Dr. Franziska Schlink.

Canterbury-Bankstown (affiliated 1930): *Chairman*, Dr. A. H. Parker; *Honorary Secretary*, Dr. A. Rumore. Membership 95. Four meetings were held.

Central Northern (affiliated 1910): *Chairman*, Dr. L. A. Dawson; *Honorary Secretary*, Dr. H. N. Rose.

Central Southern (affiliated 1909): *Chairman*, Dr. J. A. Holt; *Honorary Secretary*, Dr. D. C. Henchman. Membership 72. Three meetings were held.

Central Western (affiliated 1910): *Chairman*, Dr. L. P. H. Jeffery; *Honorary Secretary*, Dr. J. M. Aitkens. Membership 75.

Eastern District (affiliated 1913): *Chairman*, Dr. J. R. O. Roger; *Honorary Secretary*, Dr. H. E. Masters. Membership 45.

ATTENDANCE AT COUNCIL AND STANDING COMMITTEE MEETINGS UP TO DECEMBER 31, 1958.

	Council.	Committees.					
		Executive and Finance.	Organization and Science.	Medical Politics.	Hospitals.	Ethics.	Public Relations.
ALEXANDER, M. S. President-Elect	7	9	4	8	8	4	4
BOOTH, E. A.	7	—	3	—	—	—	—
Brown, D. A.[1]	5	—	—	—	—	—	2
COBLEY, J. F. C. C.	5	—	3	—	7	—	—
COOK, B. A.	5	—	—	—	2	—	2
HAMILTON, D. G.	6	—	4	—	6	—	—
HOWE, G. L. Past President	7	9	—	—	6	4	—
JONES, K. S.	7	—	—	9	—	—	3
KENNY, P. J.	5	—	—	—	5	—	—
LAVERTY, C. R. M.	6	6	—	—	—	2	—
MACDONALD, R. H.	7	9	—	—	—	6	—
MONAHAN, B. W.	7	—	—	7	—	—	—
MORROW, SIR WILLIAM. President	7	9	1	7	6	2	2
MURRAY, A. J.	7	8	—	—	—	5	—
NELSON, T. Y. Honorary Secretary	7	9	2	9	8	4	6
PUCKEY, MARY C.	5	—	4	—	7	—	—
RAWLE, K. C. T.[2]	2	—	—	—	2	—	—
SIMMONS, W. F. Honorary Treasurer	6	9	3	9	7	—	6
SPEIGHT, R. J. J.	7	—	—	7	—	—	—
STUCKEY, E. S.	4	—	—	5	—	2	—
THOMSON, E. F.	7	8	—	—	—	—	6
TOMLINSON, P. A.	6	—	—	—	8	—	—
WARDEN, D. A.	6	—	—	7	—	—	—
WING, L. W.	7	—	3	9	—	—	—
Meetings held	7	10	4	9	8	6	6

[1] Leave of absence—1 month as from June 16, 1958.

[2] Leave of absence—4 months as from July 4, 1958.

Eastern Suburbs (affiliated 1911): *Chairman*, Dr. R. B. Dunn; *Honorary Secretary*, Dr. Z. S. Freeman. Membership 172.

Far South Coast and Tablelands (affiliated 1935): *Chairman*, Dr. J. F. Ireland; *Honorary Secretary*, Dr. G. P. Charles. Membership 24.

Hunter Valley (affiliated 1947): *Chairman*, Dr. A. L. Hellestrand; *Honorary Secretary*, Dr. I. F. Waugh. Membership 56. Seven meetings were held.

Illawarra Suburbs (affiliated 1913): *Chairman*, Dr. D. A. Brown; *Honorary Secretary*, Dr. K. W. Alexander. Membership 163. Three meetings were held.

Kuring-Gai District (affiliated 1929): *Chairman*, Dr. C. H. Anderson; *Honorary Secretary*, Dr. R. B. Geeves. Membership 132. Four meetings were held.

Northern District (affiliated 1911): *Chairman*, Dr. G. B. Dance; *Honorary Secretary*, Dr. J. H. Priestley. Membership 90. Three meetings were held.

North Eastern (affiliated 1913): *Chairman*, Dr. I. A. Page to May, 1958, Dr. N. E. Brand, May to December, 1958; *Honorary Secretary*, Dr. N. J. Rogers. Membership 68. Three meetings were held.

Nepean-Hawkesbury (affiliated 1957): *Chairman*, Dr. W. F. J. Cammack; *Honorary Secretary*, Dr. J. J. Bain. Membership 19. Six meetings were held.

South Eastern (affiliated 1914): *Chairman*, Dr. H. G. Rich; *Honorary Secretary*, Dr. H. E. Marsden. Membership 77.

Southern District (affiliated 1909): *Chairman*, Dr. R. M. G. Holmes; *Honorary Secretary*, Dr. A. T. Woods. Membership 94. Two meetings were held.

South Sydney (affiliated 1909): *Chairman*, Dr. J. G. O'Neill; *Honorary Secretary*, Dr. A. R. G. Gordon. Membership 16.

Warringah District (affiliated 1929): *Chairman*, Dr. R. T. C. Hughes; *Honorary Secretary*, Dr. D. C. Williams. Membership 212. Four meetings were held.

Western (affiliated 1908): *Chairman*, Dr. W. E. Audley; *Honorary Secretary*, Dr. S. R. Dawes. Membership 115. Four meetings were held.

Western Suburbs (affiliated 1908): *Chairman*, Dr. I. L. Smith; *Honorary Secretary*, Dr. Warren Smith. Membership 145. Three meetings were held.

Annual Meeting of Delegates.

The forty-fifth annual meeting of delegates of the affiliated local associations of members with the Council was held on Friday, October 3, 1958.

The delegates present at the meeting were as follows: Blue Mountains, Dr. N. Larkins; Border, Dr. M. M. Ramsden; Broken Hill, Dr. H. T. W. Harris; Brisbane Water, Dr. W. A. Hillman; Canterbury-Bankstown, Dr. L. Abramovich; Central Northern, Dr. R. V. Dan; Central Southern, Dr. M. V. Mutton; Central Western, Dr. G. N. M. Aitkens; Eastern District, Dr. H. E. Masters; Eastern Suburbs, Dr. H. N. Merrington; Far South Coast and Tablelands, Dr. J. D. F. O'Keefe; Hunter Valley, Dr. D. L. Peate; Illawarra Suburbs, Dr. K. W. Alexander; Kuring-Gai District, Dr. C. Warburton; Nepean Hawkesbury, Dr. P. K. Bell; Northern District, Dr. J. H. Priestley; North Eastern, Dr. J. L. Roberts; Southern District, Dr. J. Oliver; South Eastern, Dr. N. J. D. Powrie; Warringah District, Dr. Margery Scott-Young; Western, Dr. G. B. Downes; Western Suburbs, Dr. S. A. Bonnette.

Special Groups for the Study of Special Branches of Medical Knowledge.

Allergy (inaugurated 1947): *Chairman*, Dr. S. E. L. Stening; *Honorary Secretary*, Dr. D. O. Cross. Membership 18. Five meetings were held, one in conjunction with a meeting of the Branch.

Anæsthesia (inaugurated 1934): *Chairman*, Dr. N. W. Bartrop; Honorary Secretary, Dr. C. A. Sara. Membership 82. Five meetings were held, two in conjunction with meetings of the Branch.

Medicine (inaugurated 1924): *Chairman*, Dr. S. G. Nelson; *Honorary Secretary*, Dr. E. L. Davis. Membership 82. Two meetings were held in conjunction with meetings of the Branch.

Neurology, Psychiatry and Neurosurgery (inaugurated 1924): *Chairman*, Dr. W. S. Charlton; *Honorary Secretary*, Dr. C. Radeski. Membership 103. Ten meetings were held, three in conjunction with meetings of the Branch.

Obstetrics and Gynæcology (inaugurated 1925): *Chairman*, Dr. A. S. B. Studdy; *Honorary Secretary*, Dr. D. H. McGrath. Membership 100. Four meetings were held, one in conjunction with a meeting of the Branch.

Occupational Medicine (inaugurated 1952): *Honorary Secretary*, Dr. D. G. Noble.

Orthopædic Group (British Medical Association) (inaugurated 1923): *Chairman*, Dr. G. Kerridge; *Honorary Secretary*, Dr. K. R. Daymond. Membership 46. Six meetings were held, two in conjunction with meetings of the Branch.

The Oto-Laryngological Society of Australia, New South Wales Section (inaugurated 1924): *Chairman*, Dr. F. F. Ellis; *Honorary Secretary*, Dr. V. D. Bear. Membership 53. Seven meetings were held.

Pædiatrics (inaugurated 1924): *Chairman*, Dr. G. M. B. Hales; *Honorary Secretary*, Dr. J. D. McDonald. Membership 105. Three meetings were held in conjunction with meetings of the Branch.

Pathology (inaugurated 1924): *Chairman*, Dr. J. P. E. O'Brien; *Honorary Secretary*, Dr. A. A. Palmer. Membership 95. One meeting was held in conjunction with a meeting of the Branch.

Radiology (inaugurated 1926): *Chairman*, Dr. D. G. Maitland; *Honorary Secretary*, Dr. B. E. Frecker. Membership 116. Six meetings were held.

Surgery (inaugurated 1925): *Chairman*, Dr. J. Steigrad; *Honorary Secretary*, Dr. K. S. Jones. Membership 42. Two meetings were held in conjunction with meetings of the Branch.

Urology (inaugurated 1940): *Honorary Secretary*, Dr. H. G. Cummine.

Congratulations.

Congratulations were extended to Sir William Morrow, D.S.O., President of the New South Wales Branch, and Sir Benjamin T. Edye, C.B.E., when they were honoured by the bestowal of knighthoods upon them by Her Majesty the Queen.

Congratulations were also extended to Dr. A. B. Lilley and Dr. J. A. James on the occasion of the bestowal on each of them of the honour of Commander of the Most Excellent Order of the British Empire by Her Majesty the Queen.

Presentation of Gavel.

The Honorary Treasurer, Dr. W. F. Simmons, presented a gavel to the Association for use by the President.

The gavel, made of Tasmanian blackwood, has mounted on it a silver plate on which is inscribed a copy of the design of the Orphic Serpent which appears in the floor of the entrance hall to British Medical Association House.

The box containing the gavel is also of blackwood and has a plate on it on which is inscribed the following:

Presented to the New South Wales Branch
of the
British Medical Association
by
Dr. W. F. Simmons
Honorary Treasurer, 1958.

The appreciation of Council was conveyed to Dr. W. F. Simmons for this gift.

Federal Council of the British Medical Association in Australia.

The Federal Council met on September 4-8, 1958.

The Branch was represented at the meeting by Dr. A. J. Murray, Dr. W. F. Simmons, Dr. R. H. Macdonald and Dr. E. F. Thomson.

By-Laws.

By-Law 4 (Annual Subscription) was amended at an extraordinary general meeting held on October 14, 1958.

The main purpose of the amendments was to define more clearly the conditions under which members would be entitled to pay a subscription less than the normal subscription rate of £11 11s. per annum.

Annual Branch Prize for an Essay on a Scientific Subject.

The subject for the annual Branch prize for the year 1958 was "The Management of the Asthmatic Child".

Entries were received from three members.

At the end of the year a final determination of the successful author had not been made. However, just prior to the printing of the report the award was made to Dr. Helen Walsh.

Annual Ball.

The third annual ball was held at the Trocadero on Wednesday, July 23, 1958, in the distinguished presence of His Excellency, The Governor of New South Wales, Lieutenant-General Sir Eric Woodward, K.C.M.G., C.B., C.B.E., D.S.O., and Lady Woodward.

The ball was judged to be a great success.

Report on Medical Education.

Towards the end of the year the Committee on Medical Education appointed at the extraordinary general meeting of the Association on February 12, 1958, submitted to Council its "Report on Medical Education, Part I—Student Numbers and the Problem of the Establishment of a Second Medical School".

The report was adopted by Council with minor amendments and was released on January 5, 1959. Copies of the report were forwarded to all members of the Association and to various organizations and persons interested in medical education in Australia and overseas.

Department of Public Relations.

New features of the Department's work have followed commencement of the public relations programme. In particular, contributions were written for a popular booklet on health, which the Association sponsored as a supplement to the "Australian Women's Weekly".

Regular articles on health and medical topics have been prepared and widely distributed, during the year, through both the country and suburban Press, under a caption "B.M.A.".

The work of popular education has been continued in radio talks over the national stations, and assistance was given to the Press in its use of material on medical subjects.

National Health Service.

During the year the Council submitted its views to Federal Council on the various aspects of the National Health Service, and its future. Attention was drawn to the shortcomings of the Medical Benefits Scheme, particular reference being made to the anomalies in the schedules of benefits. Recommendations were made to Federal Council as to the manner in which the Medical Benefits Scheme could be improved.

The views of the local Associations were sought in connexion with the conditions of service under the Pensioner Medical Service. From the information so gained the Council was able to submit its views on this matter to the Federal Council.

Hospital Policy.

(a) Staffing of Country, including Base, Hospitals.

On June 29, 1958, the Hospitals Committee of Council held a conference with representatives of the honorary medical staffs of base hospitals for the purpose of discussing the staffing of these hospitals.

The honorary medical staffs of the following base hospitals were represented: Albury Base Hospital, Dubbo Base Hospital, Goulburn Base Hospital, Grafton Base Hospital, Lismore Base Hospital, Orange Base Hospital, Tamworth Base Hospital, Wagga Wagga Base Hospital.

Towards the end of the year a memorandum setting out proposals in regard to the staffing of country hospitals was forwarded to Local Associations for their consideration.

Information obtained by members of Council during their visits to Local Associations and from representatives of the honorary medical staffs of base hospitals at the conference on June 29, 1958, together with replies received from local associations enabled the Council to obtain the views of country members on this all-important matter.

At the end of the year the matter was still under consideration by Council.

(b) Maitland Hospital.

Towards the end of 1955 representatives of the honorary medical staff of Maitland Hospital informed representatives of Council that the Board of the Maitland Hospital desired a classified staff.

An approach was made to the Commission requesting it to ask the Board of the hospital to stay its hand. However, it was in April, 1957, that matters began to take a definite shape and in early May, 1957, an advertisement appeared in THE MEDICAL JOURNAL OF AUSTRALIA calling for applications for a wide range of specialists totalling in all the large number of forty-three (43). Since that date conferences have taken place between members of the honorary medical staff and Council, the Board of the hospital and Council and members of the honorary staff, the Hospitals Commission and Council and the Hospitals Commission, the Board of the hospital and Council.

On June 14, 1958, further advertisements for physicians, surgeons and anæsthetists appeared in the Newcastle and Maitland Press. The Council advised the Board that these advertisements were not in accord with recommendations which Council had made to the Board. Having regard to the unsatisfactory proposed staffing the Council had found it necessary to advise members of the Association not to apply for any appointments until the problem of staffing was clarified.

Further representations were made to the Board of the hospital on July 25 and September 8 with a view to getting the Board to accept Council's proposals but without success.

It was found necessary to advise members, both in the *Monthly Bulletin* and THE MEDICAL JOURNAL OF AUSTRALIA, that before applying for appointments to the Maitland Hospital, they should communicate with the Medical Secretary.

At the close of the year agreement had not been reached on the matter.

(c) *Staffing of Public Hospitals: Multiple Appointments.*

Consideration was given by Council to the question of members of the medical profession holding multiple appointments on the staffs of public hospitals.

In the belief that it would be in the interests of all parties if there were an even distribution of appointments, the Council expressed the opinion that the following conditions should apply in this regard.

A. Teaching Hospitals (General):

When a practitioner holds a full active senior appointment on a teaching hospital he should not hold another appointment in a teaching hospital. He could, however, hold an appointment as a consultant in a non-teaching hospital.

An exception may be made in the case of a practitioner holding an appointment as a gynæcologist in a teaching hospital not equipped with obstetric beds. Such practitioner should be permitted to hold an appointment as an obstetrician in another hospital.

B. Teaching Hospitals (Obstetric):

The same rules should apply in the case of teaching hospitals (obstetric) as apply in the case of teaching hospitals (general).

C. Children's Hospitals:

A practitioner holding a full senior appointment would be entitled to hold one other appointment elsewhere.

D. Non-Teaching Hospitals:

A practitioner holding an appointment in a non-teaching hospital may hold

(a) an appointment as a junior in a teaching hospital, or
(b) an appointment in one other non-teaching hospital.

Implementation of the proposals:

(a) Teaching hospitals (general): It is considered that the implementation of the rules would depend on the teaching hospitals adopting uniform rules. It is further considered that the rules could be departed from when suitable applicants are not available for appointment.

(b) The implementation of all proposals should take place gradually as vacancies occur in hospitals.

It was decided to obtain the opinions of the Boards of the following hospitals, Royal Prince Alfred Hospital, Sydney Hospital, St. Vincent's Hospital, Royal North Shore Hospital, Royal Hospital for Women, Women's Hospital, Crown Street, and the Royal Alexandra Hospital for Children.

(d) *Salaries Payable to Medical Superintendents who are also Chief Executive Officers.*

At a meeting called by Council and attended by its representatives and representatives of the Boards of the following hospitals, viz. Royal Prince Alfred Hospital, Prince Henry Hospital, Royal Alexandra Hospital for Children, Rachel Forster Hospital for Women and Children, Royal Newcastle Hospital, Mater Misericordiæ Hospital, North Sydney, and Royal North Shore Hospital, consideration was given to the salaries payable to the medical superintendents of those hospitals who are also the chief executive officers.

It was the opinion of the meeting that the determination of salaries of medical superintendents of hospitals who are chief executive officers should be a matter for each individual Board, the determination to be subject to the approval of the Hospitals Commission.

The meeting also expressed the opinion that the principle that the maximum point in the scale of salary of a medical superintendent who is a chief executive officer is less than that of the head of a department is wrong.

It was decided to submit the above views to the Hospitals Commission and this was done by a deputation consisting of representatives of Council and representatives of the hospitals concerned which waited on the Commission for this purpose on November 19, 1958.

(e) *Full-Time Members of Staffs of Public Hospitals: Right of Private Practice.*

The Council found it necessary to protest to the Hospitals Commission of New South Wales against medical superintendents of public hospitals being granted the right of private practice, which it considered undesirable.

The Council had protested previously in 1957 on this same matter.

Civil Defence.

The Council appointed a committee for the purpose of offering advice to the Director, Civil Defence, in connexion with the matter of medical services in the Civil Defence Organization.

At the request of the Director, Council nominated two members of the profession to attend the Civil Defence School at Mt. Macedon, Victoria, towards the end of 1958.

Radioactive Substances Act.

Section 10 of the *Radioactive Substances Act*, 1957, provides for the users of irradiating apparatus to be licensed, also that such apparatus may be used for the purpose of treating human beings, by medical practitioners and dentists licensed for such purpose. However, sub-section (3) of that Section provides that medical practitioners, dentists or veterinary surgeons need not be licensed if they have in their possession or use irradiating apparatus for the sole purpose of diagnostic radiography.

In a communication to Council the Department of Public Health (New South Wales) referred to the report of the National Radiation Advisory Committee. This report stated:

> The medical necessity for a particular x-ray diagnostic procedure can only be evaluated when all clinical indications are taken into account by the medical practitioner. In the absence of technical advances beyond those which at present appear likely, the use of x-rays in medical diagnosis will, however, remain the major contributor to man's radiation exposure if the great advantages the practice provides to his health and well being are not to be sacrificed. The Committee has since its establishment devoted particular attention to this issue.

The letter to the Department then went on to state that the Radiological Advisory Council appointed under the provisions of the *Radioactive Substances Act* had recommended that sub-section 3 of Section 10 should be repealed so as to comply with the recommendation made by the National Radiation Advisory Committee.

The Minister for Health had asked the Department to obtain the views of the Association on the matter.

A request was made of the Federal Council that its representative on the National Health and Medical Research Council should place before the Forty-sixth Session this question of the licensing of medical practitioners who possess or use irradiating apparatus for the sole purpose of diagnostic radiology.

In the meantime a request was made of the Department of Health that no further action be taken in the matter until it was considered by the National Health and Medical Research Council.

The New South Wales State Committee of The College of Radiologists of Australasia advised Council that it was of the opinion that the licensing of general practitioners, dentists and veterinary surgeons who possessed or used irradiating apparatus for the sole purpose of diagnostic radiology was unlikely to serve a useful purpose and could well lead to unwarranted curtailment of the doctor's right to practise medicine as he sees fit.

Opticians Act.

The Department of Health sought the views of Council on a proposal that the *Opticians Act* be amended to permit of opticians using cycloplegics.

Section 23 of the Act provides that:

"Registration under this Act shall not confer upon any person any right or title

(a) .....

(b) to administer or prescribe drugs to paralyse the eye."

It was proposed to amend this Section of the Act.

A reply was forwarded to the Department of Public Health advising that Council strongly disapproved of the use of cycloplegics by persons other than medical practitioners and accordingly it was of the opinion that the *Opticians Act* should not be amended in the manner proposed.

Poliomyelitis Campaign.

Immunization of Adults.

With the decision of a number of municipal and shire councils to undertake campaigns for the mass immunization of adults against poliomyelitis, arrangements were made with the Department of Public Health for the following payments to be made where it is found necessary to carry out the injections at night time, viz.

First hour or part thereof	£4	4	0
Each subsequent half-hour or part thereof	£1	11	6

Where the injections are carried out in the day time, the usual rates of payment apply, viz.

First hour or part thereof	£3	3	0
Each subsequent half-hour or part thereof	£1	1	0

Immunization of Pupils in Private Schools.

The following policy was adopted by Council in connexion with the imunization in general of pupils in private schools, viz.

> Where immunization is not carried out by Public Health authorities, day pupils should be referred to their own doctors. No objection is taken, however, to boarders being immunized by the school doctors after permission has been obtained from their parents.

Partnership Agreements.

In view of the success which attended the publication of a model form of agreement for assistantships, Council gave consideration to preparing a model form of agreement for partnership. It was considered more advisable, however, to issue a statement setting out the various matters to which reference might be made in any partnership agreement.

A copy of the statement was forwarded to each member in the form of a supplement (Newsletter No. 6) to the *Monthly Bulletin* of November 17, 1958.

Workers' Compensation Act.

Schedules of Fees.

During the year agreement was reached with the Associated Licensed Insurers, the Government Insurance Office of New South Wales and the Non-Tariff Insurance Association of Australia for the introduction of:

(a) a new schedule of fees, Schedule "J", to replace Schedule "H",

(b) a schedule of fees for specialist surgeons.

Both schedules came into operation on July 1, 1958.

Parking of Motor Cars.

During the year arrangements were made for the setting aside of areas in Conservatorium Road for the parking of doctors' cars. This greatly relieved the position which existed prior to this arrangement.

The Medical Benevolent Association of New South Wales.

The Council decided to make a special appeal to members to support the very worthy object of the Medical Benevolent Association of New South Wales, that is, assisting doctors and their immediate relatives, who through old age or illness are in financial distress.

The appeal was sent out over the signature of the President at the commencement of the year.

The suggestion was made in the appeal that if all members of the British Medical Association in New South Wales were to contribute as little as £1 1s. a year, the Benevolent Association would be enabled to provide some modest assistance to all suitable applicants.

British Medical Insurance Company of New South Wales Limited.

On November 1, 1958, the British Medical Insurance Company of New South Wales Limited commenced business at 82 Elizabeth Street, Sydney.

The company, originally sponsored by the New South Wales Branch of the British Medical Association, is a non-profit company formed by doctors for doctors and their families.

The profits shall be disbursed at the discretion of the directors for such purposes as the promotion of the medical and allied sciences, the establishment of scholarships, bursaries or prizes in connexion with the study of a research in any branch of medical science, etc.

The directors are: Dr. G. L. Howe, Chairman; Dr. K. S. Jones, Dr. A. J. Murray, Dr. E. F. Thomson and Dr. J. G. Hunter; and the Secretary, Dr. Hugh Hunter.

The Council is desirous that members should give their support to the company.

Golf Tournament.

The annual golf tournament for the British Medical Association Cup, presented by the late Dr. H. C. Rutherford Darling, was held on the golf course of the Australian Golf Club at Kensington on Tuesday, November 11, 1958.

The winner was Dr. M. S. Richmond and the runner-up, Dr. V. J. McGovern.

The British Medical Agency of New South Wales Limited.

The directors reported that during the year there was a net loss of over £100 as against a profit of slightly over £700 the previous year. This loss was brought about by the company having to pay retiring allowances of over £1,700. However, the services provided by the company have been reorganized and extended and the various functions placed on a more economical basis. The affairs of the company are now showing a more profitable trend and the profession generally is giving more active support to its own agency, than has been evident in the past.

At the end of 1957, Mr. C. R. Strange and Mr. S. G. Macintosh retired from the service of the company. Mr. P. R. E. Murnin was appointed to the managership of the company on January 1, 1958.

A generous donation of £1,450 was made by the directors of the Agency to the New South Wales Branch of the British Medical Association towards the objects of the Association. For this the Council expressed its appreciation and thanks to the directors of the company.

Medical Finance Limited.

There was a slight net profit for the year ended June 30, 1958.

During the year there was some demand for the company's funds, but the company has not been in the position to consider further advances in view of the new arrangements with the Bank of New South Wales whereby in approved cases finance may be provided direct by the Bank for purchasers of medical practices.

British Medical Association House.

Council Room.

In view of the need to extend the library accommodation, it was decided to take over the area occupied by the William H. Crago Council Chamber, First Floor, British Medical Association House, for this purpose. It was also decided to construct a new Council room to be situated in the south-western corner of the second floor of the building.

Painting.

During the year, it was found necessary to paint the whole of the exterior of British Medical Association House. The building had been painted previously in 1949.

Premises Revenue Account.

The premises revenue account discloses a net surplus of £5,612 for the year ended December 31, 1958, as against a net surplus of £944 for the year ended December 31, 1957, thus showing an increase of £4,668 in net revenue earned.

A comparison of percentages of expenditure to rent revenue with those of December 31, 1957, is as follows:

	1957	1958
Percentages of Expenses to Revenue	97·2	88·8
Percentages of Surplus to Revenue	2·8	11·2
	100·0%	100·0%

The percentage of rent revenue, expenses and depreciation and the percentage of net surplus for the year to the capital value of the land and building (British Medical Association House) as shown by the books at December 31, 1958, namely £120,712, with the previous year's percentages in parentheses, are as follows:

Rent revenue (including amount charged for British Medical Association Branch Offices, etc.)		30·62%	(26·9%)
Sundry Expenses, Interest, Provision for Painting, etc.	24·35%		(23·87%)
Depreciation of Building	2·32%	26·67%	(2·27%)
		3·95%	(·76%)

Financial Statement.

The Council has pleasure in presenting to members the balance sheet and accounts in respect of the financial year which terminated on December 31, 1958. The net surplus of revenue over expenditure amounted to £10,822 after making provision for all known expenditure.

The sum of £5,525 has been written off for depreciation of the building (British Medical Association House), plant, office furniture, equipment and the library.

The sum of £800 has been provided out of the current year's revenue to create a reserve for painting of the exterior of the building, and the sum of £3,200 has been charged against this reserve representing the cost of painting completed during the year. The provision for long service leave has been increased by £300.

A. W. MORROW,
President.

The balance sheet of the Branch and the income and expenditure account of the Branch and of the premises were received on the motion of Dr. W. F. Simmons, seconded by Dr. A. J. Murray. They were adopted on the motion of Dr. W. F. Simmons, seconded by Dr. R. H. Macdonald.

Election of Office Bearers.

Sir William Morrow then announced that the following had been elected to the Council as representatives of the general body of members for the ensuing year: Dr. E. A. Booth, Dr. D. A. Brown, Dr. W. L. Calov, Dr. J. F. C. C. Cobley, Dr. D. G. Hamilton, Dr. G. L. Howe, Dr. R. H. Macdonald, Dr. A. E. McGuinness, Dr. A. J. Murray, Dr. T. Y. Nelson, Dr. K. C. T. Rawle, Dr. W. F. Simmons, Dr. E. S. Stuckey, Dr. E. F. Thomson, Dr. P. A. Tomlinson, Dr. D. A. Warden.

Elected as representing women members: Dr. Mary C. Puckey.

Elected as representing the Public (Government) Medical Services: Dr. L. W. Wing.

Elected as representing metropolitan local associations: Dr. K. S. Jones, Dr. C. R. M. Laverty.

Elected as representing country local associations: Dr. B. A. Cook, Dr. B. W. Monahan.

Messrs. F. W. Duesbury and Company were elected auditors for the ensuing year.

NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Balance Sheet as at December 31, 1958.

	£ s. d.	£ s. d.
FIXED LIABILITIES.		
Debentures—		
50—4% Series "A" at £10 each	500 0 0	
234—4·65% Series "B" at £50 each	11,700 0 0	
176—4·65% Series "C" at £10 each	1,760 0 0	
	13,960 0 0	
General Reserve Fund (used in the Branch Business)	2,272 0 0	
		16,232 0 0
CURRENT LIABILITIES.		
Sundry Creditors	1,911 2 3	
Deposit at Call	700 0 0	
Commercial Banking Co. of Sydney Limited—Branch and Premises Current Accounts	3,651 19 2	
		6,263 1 5
OTHER CREDIT BALANCES.		
Subscriptions Paid in Advance—		
Suspense Account	23 3 0	
Provision for Taxation	4,586 7 0	
Provision for Long Service Leave ..	2,300 0 0	
Provision for Painting Building ..	4,000 0 0	
Provision for Handbook and Library Catalogue	1,750 0 0	
Superannuation Fund Reserve Account—*as per contra*	3,871 13 7	
		16,536 8 7
Accumulated Funds—		
Balance as at December 31, 1957	115,811 11 2	
Add Surplus for year—		
Branch	5,210 11 8	
Premises	5,611 11 4	
		126,633 14 2
		£165,965 4 2

	£ s. d.	£ s. d.
FIXED ASSETS.		
Land and Building—B.M.A. House, at Cost *less* Depreciation ..	120,712 9 0	
Library, at Cost *less* Depreciation	9,320 12 0	
Office Furniture and Equipment, at Cost *less* Depreciation ..	3,219 6 10	
Debentures in Other Companies—		
Australasian Medical Publishing Co. Ltd.—Face Value ..	17,400 0 0	
Deposit on Debentures	93 12 7	
Commonwealth Treasury Bonds—Face Value	6,000 0 0	
		156,746 0 5
CURRENT ASSETS.		
Sundry Debtors (after making provision for Doubtful Debts, Sundry Tenants' Rent, etc.) ..	3,352 8 7	
Cash on Hand	32 16 11	
		3,385 5 6
OTHER DEBIT BALANCES.		
Prepaid Insurances, Rates, etc. ..	1,962 4 8	
Superannuation Fund Investment Accounts, *as per contra*	3,871 13 7	
		5,833 18 3
		£165,965 4 2

Sydney,
February 13, 1959.

A. W. MORROW, President.
W. F. SIMMONS, Honorary Treasurer.
J. F. WALKER, Accountant.

We have examined the foregoing Balance Sheet with the Books of Account of the New South Wales Branch of the British Medical Association, and having obtained all the information and explanations we have required, we are of the opinion that such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given to us and as shown by the Books of the Company. In our opinion, the Register of Members and other records which the Company is required to keep by the New South Wales Companies Act, 1936, or by its Articles have been properly kept.

F. W. DUESBURY & CO.,
Chartered Accountants (Aust.).

NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

BRANCH ACCOUNT.

Income and Expenditure Account for the Year Ended December 31, 1958.

	£ s. d.	£ s. d.
To Salaries	15,771 0 0	
„ Rent—Offices, etc.	1,200 0 0	
„ Printing and Stationery	2,764 15 2	
„ Stamps and Telegrams	742 9 2	
„ Telephones	372 19 3	
„ Travelling Expenses — General	648 8 4	
„ Code Address	3 8 0	
„ Insurances	108 16 8	
„ Exchange and Bank Charges	15 11 0	
„ Refreshments—Meetings	69 10 0	
„ Newspapers and Advertising	22 9 11	
„ Sundry Petty Expenses	66 18 2	
„ Tea Money	125 19 8	
„ Federal Council	5,025 0 0	
„ Legal Expenses	32 12 0	
„ Repairs and Maintenance—Equipment	95 8 9	
„ Pay Roll Tax	263 19 4	
„ Medical Benefits—Staff	39 1 3	
„ Staff Superannuation Funds	925 15 0	
„ Incidental Travelling and Entertainment Expenses	324 0 0	
„ Stamp Duty	45 0 9	
„ Laundry	28 19 6	
„ Branch Prize and Medal	107 17 0	
„ Public Relations Campaign	469 12 9	
		29,369 11 8
„ Allowance for Depreciation—Library	2,253 1 6	
Furniture and Equipment	260 13 6	
		2,513 15 0
„ Provision for Long Service Leave		200 0 0
		31,983 6 8
„ Surplus for Year		5,210 11 8
		£37,193 18 4

	£ s. d.	£ s. d.
By Subscription Revenue		43,806 15 10
Less Proportion due to—British Medical Association	6,472 16 7	
MEDICAL JOURNAL OF AUSTRALIA	2,004 7 6	
		8,477 4 1
		35,329 11 9
„ Interest—Australasian Medical Publishing Co. Limited—Debentures	985 8 11	
Commonwealth Treasury Bonds	183 17 1	
		1,169 6 0
„ Rent—Assembly Hall		655 0 7
„ Broadcasting and Journalist Fees		40 0 0
		£37,193 18 4

ELECTION OF REPRESENTATIVES OF THE BRANCH AT THE ANNUAL REPRESENTATIVE MEETING OF THE BRITISH MEDICAL ASSOCIATION, 1959, EDINBURGH.

On the motion of Dr. D. A. Brown, seconded by Dr. P. A. Tomlinson, it was resolved that Dr. J. G. Hunter, Dr. J. G. Radford and Dr. H. M. Owen should be appointed as representatives of the New South Wales Branch to attend the annual meeting of the British Medical Association to be held at Edinburgh from July 16 to 24, 1959.

PRESENTATION OF THE ANNUAL BRANCH PRIZE FOR AN ESSAY ON A SCIENTIFIC SUBJECT.

Sir William Morrow announced that the annual Branch prize for an essay on a scientific subject had been awarded for the third time. The subject set for the 1958 essay was "The Management of the Asthmatic Child', and the winner was Dr. Helen Walsh. Sir William Morrow presented Dr. Walsh with a medallion and a cheque for the amount of her prize.

INCOMING PRESIDENT'S ADDRESS.

Dr. Munro Alexander delivered his incoming president's address entitled "An Enchanted Place" (see p. 753).

A vote of thanks to Dr. Alexander for his address was carried on the motion of Dr. K. C. T. Rawle, seconded by Dr. E. S. Stuckey.

INDUCTION OF PRESIDENT.

Sir William Morrow inducted the President for the year 1959-1960, Dr. Munro Alexander, and invested him with the presidential badge of office. Dr. Alexander thanked the members for his election.

Correspondence.

CHLORPROMAZINE AND PHENOBARBITAL IN DISTURBED BEHAVIOUR.

SIR: I refer to the article "A Comparative Study of Chlorpromazine and Phenobarbital in the Control of Disturbed Behaviour in a Group of Long-Stay Psychotic Patients" by K. M. Bern and A. S. Ellis, in the Journal of April 25.

These authors have shown that a moderate to large daily dose of phenobarbital appears to be as effective as a small and inadequate dose of chlorpromazine. Both these drugs were given three times a day (presumably to fulfil the requirements of a "double blind" experiment). They have disregarded the fact that phenobarbitol has a therapeutic action of twice as long as that of chlorpromazine, which is relatively rapidly excreted. I am surprised that these workers even expected any result from chlorpromazine in such a group of patients as they describe, if given in doses of less than 100 mg. five times daily. It may be necessary to give twice this quantity.

Such a trial proves nothing worthwhile unless each drug is used to its maximum effect.

Yours, etc.,

S. G. ROWE, D.P.M.
Clinical Psychiatrist.

Broughton Hall Psychiatric Clinic,
Leichhardt, N.S.W.,
April 28, 1959.

THIRD WORLD CONGRESS OF CARDIOLOGY.

SIR: It is of great interest to read the comprehensive report on the Brussels Congress in your issue of April 25. Having also been privileged to hear Dr. Maurice Sokolow report to the cardiac units of the University of California (San Francisco), I find the difference between American and Australian impressions interesting. Recent advances in cardiac surgery are well known to American cardiac departments and do not excite the same interest as outside the States.

Dr. Sokolow's most striking impression was of a *volte-face* in the trend of investigation of coronary disease, since the preceding year, away from lipid investigations and towards an interest in thrombosis. To the Australian delegates it was obviously of some surprise that more emphasis was not placed on anticoagulant therapy.

Continued American preoccupation with lipid metabolism was in evidence at the 31st Scientific Sessions of the American Heart Association in October, 1958 (although two possibly significant papers were missed owing to the many

simultaneous sessions). Most contributors stated or implied hypercholesterolæmia and hyperlipæmia to be present, in patients with or without xanthomatosis, in their cases presenting with coronary ischæmia. Behaviour pattern of the individual in his environment rather than diet was said to raise blood cholesterol and lipid (Wolf, Oklahoma) and probably also disorder metabolism of arterial structures (Friedman, San Francisco), with consequent probable coronary occlusion if the cholesterol level rose about 200 mg. Sternberg (Cleveland) ascribed high blood cholesterol to a gene with a penetrance rising with age and greater in the male sex, except in xanthomatosis, which is due to a dominant gene. Russek (Staten Island, N.Y.), on the other hand, reported normal cholesterol levels and no hereditary factor in many of his patients with coronary disease. He postulated synthesis of phospholipids in the vessel wall instead of their deposition there, formation being increased by adrenaline increase. Coronary disease could thus be considered as due to an alarm reaction sustained over a period of time, and could possibly be regarded as a maladaptation syndrome pending genetic change to conditions of modern life.

Whether the presence of lipid is significant or a concomitant of coronary disease will determine the approach to prophylaxis. Clinical evidence at present does seem to favour long-term anticoagulant therapy, and is being used increasingly for patients who have had a first coronary occlusion or severe angina pectoris, whereas response to an unsaturated fatty acid diet has so far proved disappointing in all but a few cases. Some adult cardiologists are wondering where the line can be reasonably drawn in prophylaxis . . . taken to the extreme, anticoagulants should be given to the whole population (without contra-indications) above the age of 30. Conversely on the lipid theory of causation, as Dr. Lawson McDonald (London) points out, to be effective an unsaturated fatty acid diet would probably have to be given from early childhood throughout life.

The ratio of cardiovascular deaths to deaths from all causes has steadily risen from 24% in 1905 to over 50% in America and Australia in 1955 (slightly under this figure in the U.K.), and of these over half are now due to arteriosclerotic, including coronary, disease. It is significant that in the U.S.A., 44% of the cardiovascular deaths in the 25 to 44 age group are now due to occlusive heart disease. It would therefore seem reasonable to employ prophylactic measures at least for patients who have already shown evidence of ischæmic heart disease, in addition to the usual precautions of slowing the *tempo* of life. The most promising method at present is long-term anticoagulant therapy.

Yours, etc.,

52 Fitzgerald Street,
Balwyn, E.8, Victoria.
May 1, 1959.

GLADYS C. FRYER.

ALCOHOL AS A FACTOR IN MEDICO-LEGAL SUDDEN DEATHS.

SIR: Dr. Lawrie's letter (MED. J. AUST., April 25, 1959) once again raises the fallacy of blood alcohol estimations.

Apart from the technical errors mentioned by Dr. Lawrie, there are many others. Of these, the most important is a patient's tolerance to alcohol. Some persons can drink large quantities of liquor, have a high percentage of alcohol in their blood, and yet be sober and quite able to drive a car. This is the case with many who drink much during their working hours. On the other hand, those with a low tolerance may be very drunk, and yet may have little alcohol in their blood.

Again, tolerance to alcohol varies in the same person from day to day. It is worsened, *inter alia*, by sedatives, tranquillizers, illnesses and fatigue.

Similarly, in true alcoholics, who are hypersensitive to alcohol, there seems to be present on some days a capacity to drink enormous quantities of alcohol without showing the traditional signs of alcoholism. On other days, their reactions to even small quantities of alcohol are violent.

Probably the old axiom *"in vino veritas"* is very near the truth. Alcohol is not as important as the person who drinks it. The responsible person remains responsible in his cups; the irresponsible person becomes more irresponsible.

Whilst the estimation of the alcohol in a person's blood may tell us how much alcohol he drank, it will not tell us what his tolerance to it was, the state of his health, what sedative he had taken, how tired he was. All that we are doing is a scientific test, whose importance we have exaggerated, and on the results of which we are basing clinical conclusions.

Probably we are following the modern trend of basing diagnoses on scientific tests, forgetting in the process the old aphorism "Treat the patient, and not the disease", which is the very basis of medicine.

Yours, etc.,

195 Macquarie Street,
Sydney.
May 5, 1959.

S. J. MINOGUE.

LONG-ACTING PROGESTERONE PREPARATIONS AND ORALLY ADMINISTERED "PRIMOLUT N" IN THE TREATMENT OF HABITUAL ABORTION.

SIR: In the article "Long-Acting Progesterone Preparations and Orally Administered 'Primolut N' in the Treatment of Habitual Abortion", which appeared in THE MEDICAL JOURNAL OF AUSTRALIA, March 28, 1959, Dr. Rawlings and Dr. Krieger said that "Proluton Depot" (17-hydroxy-progesterone-17-capronate) was said to raise and maintain the blood progesterone level for three weeks. No reference is given for this statement which is repeated in the summary of the article. No claim to this length of action is made by the manufacturers. The standard reference on this subject is Boschann[1], who states that 17-hydroxy-progesterone-17-capronate "possesses a depot action which extends approximately over eight days".

Yours, etc.,

R. P. SHEARMAN.

Queen Elizabeth II Research Institute
for Mothers and Infants,
University of Sydney.
April 29, 1959.

Royal Australasian College of Surgeons.

FINAL FELLOWSHIP EXAMINATION.

A MEETING of the Court of Examiners for the final examination for Fellowship of the Royal Australasian College of Surgeons will be held in Melbourne, commencing on Friday, October 16, 1959. Candidates who desire to present themselves at this examination should apply on the prescribed form, to the Censor-in-Chief for permission to do so before September 3, 1959. The appropriate forms are available from the Examination Secretary, Royal Australasian College of Surgeons, Spring Street, Melbourne, C.1. Candidates who have already been approved by the Censor-in-Chief, but who have not yet presented themselves for the examination, may present for this examination, provided that they notify the Examination Secretary of their intention to do so by September 3, 1959. It is stressed that entries close on this day and late entries cannot be accepted. The examination fee is £26 5s., plus exchange on cheques drawn on banks outside Melbourne, and must be paid to the Examination Secretary by September 3, 1959. The examination will be conducted in general surgery and in the special branches of ophthalmology, laryngo-otology, orthopædics, gynæcology and operative obstetrics, urology, thoracic surgery, neurosurgery, plastic surgery and pædiatric surgery.

At its meeting held on June 20, 1958, the Council of the College decided that candidates who possessed the Fellowship of a body with which this College has reciprocity of primary examinations shall be exempted from the written part of the examination, provided that there is no relaxation of apprenticeship prerequisites.

FACULTY OF ANÆSTHETISTS: FINAL FELLOWSHIP EXAMINATION.

A MEETING of the Court of Examiners for the final examination for Fellowship of the Faculty of Anæsthetists of the Royal Australasian College of Surgeons will be held in Melbourne, commencing on Friday, October 16, 1959. Candidates who desire to present themselves at this

[1] *Arztl. Wschr.*, 1954, 9: 591.

examination should apply, on the prescribed form, to the Assessor for permission to do so before September 3, 1959. The appropriate forms are available from the Examination Secretary of the Faculty, Royal Australasian College of Surgeons, Spring Street, Melbourne, C.1. It is emphasized that entries close on September 3, 1959, and late entries cannot be accepted. The examination fee is £26 5s., *plus* exchange on cheques drawn on banks outside Melbourne. The examination fee must be paid to the Examination Secretary by September 3, 1959. Subjects for the final examination are: (*a*) anæsthesia and analgesia, including pre-operative and post-operative care; (*b*) medicine and surgery; (c) the application of the basic sciences, including chemistry and physics, to the speciality of anæsthetics. The examination in each case is partly written, partly oral and partly clinical (including the examination of patients).

Graduates of an approved medical school who have obtained, prior to December 31, 1957, the first part of the diploma in anæsthesia of an approved medical school or college, may, at the discretion of the Board, be allowed to present themselves for the final examination of the Faculty, provided that they have fulfilled all other regulations.

Post-Graduate Work.

ROYAL PRINCE ALFRED HOSPITAL: EAR, NOSE AND THROAT DEPARTMENT.

SEMINAR PROGRAMME, 1959.

THE staff of the Ear, Nose and Throat Department will conduct a seminar on the second Saturday of every month at 8 a.m. in the Scot Skirving Lecture Theatre, Royal Prince Alfred Hospital. The main speaker will not exceed forty minutes, and there will be a discussion at the conclusion of his remarks. All medical practitioners and clinical students are invited to attend.

At the next seminar, to be held on June 13, 1959, Dr. B. B. Sheaves will speak on "The Testing of Vestibular Function".

Notes and News.

H.M.A.S. "Watson" Memorial Chapel.

MEDICAL PRACTITIONERS who served with the armed forces in the first and second World Wars, especially those who were with the Royal Australian Navy, will be interested in the proposed memorial chapel to be built at H.M.A.S. *Watson*, Watson's Bay, N.S.W. In the words of Admiral H. B. Farncomb, C.B., D.S.O., M.V.O., who is the General Campaign Chairman, it is "a noble edifice to be built in honour of the R.A.N. dead and to care for the spiritual well-being of the living". The H.M.A.S. *Watson* Memorial Chapel Fund has as its goal the sum of £27,000. Admiral Farncomb appeals for subscriptions as follows: "Will you help us in this matter? It will be a great kindness, and you will be able to rest in the knowledge that you are helping to provide for the moral and spiritual well-being of our sailors." The Honorary Treasurer of the fund is Commander S. R. G. Sharp, R.A.N., and campaign headquarters are at H.M.A.S. Watson, Watson's Bay, N.S.W. Telephone: FU 1310, FU 1317-8-9.

Congresses.

INTERNATIONAL CONGRESS OF PHLEBOLOGY.

THE French Society of Phlebology, the address of which is 63, Boulevard des Invalides, Paris, VII^e^, announces that an International Congress of Phlebology will be held at Chambery, Savoie, France, on May 6 and 8, 1960. The subjects of the Congress will be: (i) venous stasis; (ii) pain in venous affections of the lower limbs; (iii) the sclerosing method in its extravascular applications. A number of speakers of high standing will take part. Only communications dealing with the stated subjects will be accepted. The official languages of the Congress will be English, French, German, Italian and Spanish (simultaneous translations). Applications for membership of the Congress are now being received, and papers may be submitted. The secretaries of the Congress are the

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED MAY 2, 1959.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	..	3(3)	1(1)	..	..	..	..	..	4
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	5	..	2	..	..	..	1	..	8
Anthrax	..	..	..	..	..	..	..	..	..
Bilharsiasis	..	..	..	..	..	..	..	..	..
Brucellosis	1	1	..	..	..	..	..	..	2
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	1	..	..	..	..	..	..	1
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	4(3)	8(7)	1(1)	..	..	..	..	..	13
Diphtheria	2	2(2)	..	..	..	..	..	..	4
Dysentery (Bacillary)	..	3	1(1)	1(1)	6(6)	..	2	..	13
Encephalitis	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	..	..	..	..
Infective Hepatitis	40(11)	27(8)	6(4)	16(5)	4(3)	1	2	1	97
Lead Poisoning	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	4	..	..	..	..	..	4
Malaria	..	..	1(1)	..	..	..	..	..	1
Meningococcal Infection	2(1)	2(1)	..	..	..	..	..	..	4
Ophthalmia	..	..	..	..	1	..	..	..	1
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	1	..	..	..	..	..	..	..	1
Puerperal Fever	..	..	..	..	..	..	..	..	..
Rubella	..	9(5)	..	3(1)	3(2)	..	..	..	15
Salmonella Infection	..	..	..	..	2(2)	..	..	..	2
Scarlet Fever	20(5)	20(15)	4(3)	1	1(1)	1(1)	..	..	47
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	2(1)	..	..	..	..	..	2
Trachoma	..	..	..	..	107(20)	..	140	..	247
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	17(11)	19(16)	14(5)	5(5)	11(11)	3(1)	..	..	69
Typhoid Fever	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

following: Dr. J. Marmasse, 3, Rue de la République, Orléans, Loiret; Dr. S. Bourgeois, 8, Boulevard du Théâtre, Chambery, Savoie.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

MR. J. W. PERROTT has been appointed to a senior lectureship in anatomy in the University of Sydney. Mr. Perrott is a London graduate, and since 1949 has been Lecturer in Oral Anatomy at King's College, Durham.

Dr. G. M. Kellerman has been appointed Senior Lecturer in Biochemistry in the University of Sydney. He is a graduate of that University, and at present holds the position of Senior Research Fellow, National Health and Medical Research Council of Australia, in the Department of Medicine of that University.

Dr. C. F. Thwaites has been appointed to a senior lectureship in anatomy in the University of Sydney. He is a graduate in medicine of that University, and since 1957 has been Surgical Registrar and part-time Lecturer in Anatomy at St. Vincent's Hospital, Darlinghurst.

THE UNIVERSITY OF ADELAIDE.

Award of the Shorney Prize for 1958.

THE Council of the University of Adelaide has awarded the Shorney Prize for 1958 in diseases of the ear, nose and throat to Dr. G. Christensen, of Brisbane, for his thesis entitled "The Relationship of Mandibular Position to the Patency of the Eustachian Tube, with Special Reference to the Etiology, Investigation and Treatment of Otitic Barotrauma'. Dr. Christensen is a graduate in dentistry of the University of Queensland and the University of Toronto.

The Shorney Prize was established for the purpose of perpetuating the memory of the late Dr. H. F. Shorney, formerly lecturer in ophthalmology in the University of Adelaide. It has been offered for award on nine occasions since its establishment in 1941, but this is only the third occasion on which an award has been made. The prize, which is of the value of £100, is offered for original work in ophthalmology and diseases of the ear, nose and throat alternately, and is open to graduates of any Australian university.

Notice.

MISSING GIRL.

MARGARET JOYCE ROSE, aged 15 years, daughter of Dr. Thomas Rose, 141 Macquarie Street, Sydney, has been missing from her home since May 22, 1959. She is 5 ft. 4 in. high, well built and brunette with brown eyes and medium complexion. She is subject to infrequent attacks of migraine. Anyone with any information about her is asked to communicate either with Dr. Rose or with the local police.

Nominations and Elections.

THE undermentioned have been elected as members of the New South Wales Branch of the British Medical Association: Green, Stanley, M.B., B.S., 1959 (Univ. Sydney); Vincent, Paul Craig, M.B., B.S., 1959 (Univ. Sydney); Blumer, Robert George, M.B., B.S., 1957 (Univ. Sydney); Compton, Ronald Murray, M.B., B.S., 1956 (Univ. Melbourne); Shanahan, Leo Francis, M.B., B.S., 1955 (Univ. Sydney); Dax, Albert Andrew, M.D., 1934 (Univ. Budapest), (regional registration under Section 21A); Hatos, George, M.D., 1937 (Univ. Szeged) (registered in accordance with the provisions of Section 17 (1) (b) of the *Medical Practitioners Act*, 1938-1958); Stepan, Jaromira Frances, M.D., 1946 (Univ. Prague) (issued with a licence under Section 21 (b) of the *Medical Practitioners Act*, 1938-1958); Sekules, Istvak, M.D., 1950 (Univ. Budapest) (registered in accordance with the provisions of Section 17 (2A) of the *Medical Practitioners Act*, 1938-1958).

Deaths.

THE following deaths have been announced:

MAXWELL.—William Thomas Daly Maxwell, on May 21, 1959, at Sydney.

PAUL.—Charles Norman Paul, on May 25, 1959, at Sydney.

Diary for the Month.

JUNE 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
JUNE 11.—New South Wales Branch, B.M.A.: Public Relations Committee.
JUNE 12.—Queensland Branch, B.M.A.: Council Meeting.
JUNE 12.—Tasmanian Branch, B.M.A.: Branch Council.
JUNE 15.—Victorian Branch, B.M.A.: Finance Sub-Committee Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales. Anti-Tuberculosis Association of New South Wales.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Editorial Notices.

ALL articles submitted for publication in this Journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the Journal, and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this Journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in Australia can become subscribers to the Journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rate is £5 *per annum* within Australia and the British Commonwealth of Nations, and £6 10s. *per annum* within America and foreign countries, payable in advance.